

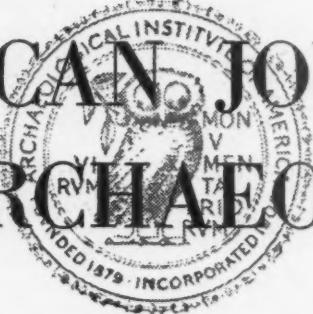
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THREE CANAL PROJECTS, ROMAN AND BYZANTINE

FRANK GARDNER MOORE

IN HIS official correspondence as governor of Pontus and Bithynia with the Emperor (*Epist.* 10.41) Pliny suggests to Trajan a canal to obviate vehicular transport between a lake in the territory of Nicomedia, lying to the east of that city, by connecting this Lacus Sunonensis¹ with the Propontis (fig. 1). The Emperor's reply (42) shows that he would not be deterred by the elevation of the lake even if the army technicians (*libratores*² or *architecti*) to be obtained from Moesia, or sent by himself from Rome (cf. 41.3), should establish a higher figure than the 40 cubits (60 feet) tentatively claimed by local talent. Trajan's one concern at the moment is the danger of draining the lake away³ by opening such a canal down to salt water (42).

Turning to Pliny's second letter on this subject (10.61), and comparing its 2nd section with the 3rd and 4th, we see that he was weighing alternative projects:

(1) He would construct a canal merely to reach the bank of a river flowing into the Sinus Astacenus, that arm of the Propontis at the east end of which lay Nicomedia. He is proposing to leave a narrow dyke between canal and river, so that the heavy freight of 41.2 (marble, farm products, firewood, timber) could be lowered or rolled down to boats on the river. He must have

had in mind a slipway (*diolkos*, 'haul-over'),⁴ much used to overcome differences of level. If the canal was at that point parallel to the river, it could be closed by a single floodgate regulating outflow into the river lower down. This plan may have been advanced as an entering wedge, involving a minimum of time and outlay. In both respects it would be likely to commend itself to Trajan, along with other preparations for the war with Parthia then impending. It might well prove the preliminary step towards a navigable canal from the lake down to sea-level in the harbor of Nicomedia.

(2) Better still, to ignore the small river that emptied into the Bay but brought down no water from the lake, and to dig a canal for the whole distance (18 km.). That the Emperor's concern lest the lake be drained away might be relieved, Pliny makes it clear that he plans a narrow canal (*fossam . . . artius pressam*, 61.4); that he would completely close the natural outlet of the lake at its east end, 6 km. due west of the Sangarius, thus supplying his canal with sufficient water from the lake, thereafter flowing westward. The need of an engineer being obvious, he will write to the governor of Moesia Inferior, the nearest commander of an army, requesting him to send a *librator*.⁵ In case the volume of water in the

¹ This is the better supported form of the name according to the MSS of Ammianus Marcellinus 26.8.3, in place of Sumonensis on most of our maps. The modern name is Sabanja Göl; 16 km. in length with a breadth of 4½ km. For a hasty and quite impossible identification with the Ascania Lacus, on which Nicaea lies, see below, p. 110.

² I.e. 'engineers,' not 'levellers'; for while the word is derived from *libra*, the levelling instrument, usage took account of his wider range. Often he served as an architect, being at times indistinguishable from *architectus*, an engineer officer little above the low rank of a *librator*. Both were usually veterans. Cf. Cagnat, *L'Armée romaine d' Afrique* 189 f.; Domaszewski, Bonn. Jahrb. 117 (1908) 25.

³ How sixth century engineers were planning to avoid that risk will be shown below, p. 109.

⁴ W. L. Westermann, *Pol. Sci. Quart.* 43 (1928) 383. Cf. Strabo 8.2.1; 8.6.4 and 22 for its employment at the Isthmus of Corinth, so that the word became a

proper noun: also Polyb. 5.101.4; 4.19.7–9. For Chinese canals with haul-overs, often using oxen or water buffalo, cf. L. S. Yang, *HJAS* 12 (1949) 240 f. For facts concerning canals and locks in China I am indebted to my colleague Prof. L. Carrington Goodrich Cf. n. 15.

⁵ Correspondence with a governor in such a matter (42; 61, 5 and 62) is best illustrated from a long inscription at Lambèse in Numidia, including even quotations from letters. Nonius Datus, *librator* of the IIIrd legion, had been sent over into Mauretania to plan and construct an aqueduct for a seaport east of Algiers. A tunnel to carry the water through a mountain was begun, two crews working from opposite sides. Datus was unable to be there when the borings failed to meet. He was recalled by a letter to the legatus of Numidia, returned to Saldae, and completed the work. It was dedicated ca. 152 A.D., 40 years after Pliny's request for an engineer. Cf. *CIL* viii, 2728; Cagnat *op. cit.* 190.

canal should prove excessive, he thought the current could easily be checked by *cataractae*.

With that device to make a river or a canal more serviceable he may have been familiar from journeys in the upper valley of the Tiber to and from his Tuscan villa. For in the *Natural History* 3.53 we find his uncle describing efforts

chiefly in summer. At that season there was probably little upstream traffic, reserved generally, we may suppose, for seasons when dams would be under water, and vertical gates⁶ raised high enough to clear passing boats.

On a close examination of the passage just cited one is struck by the inconceivable waste of

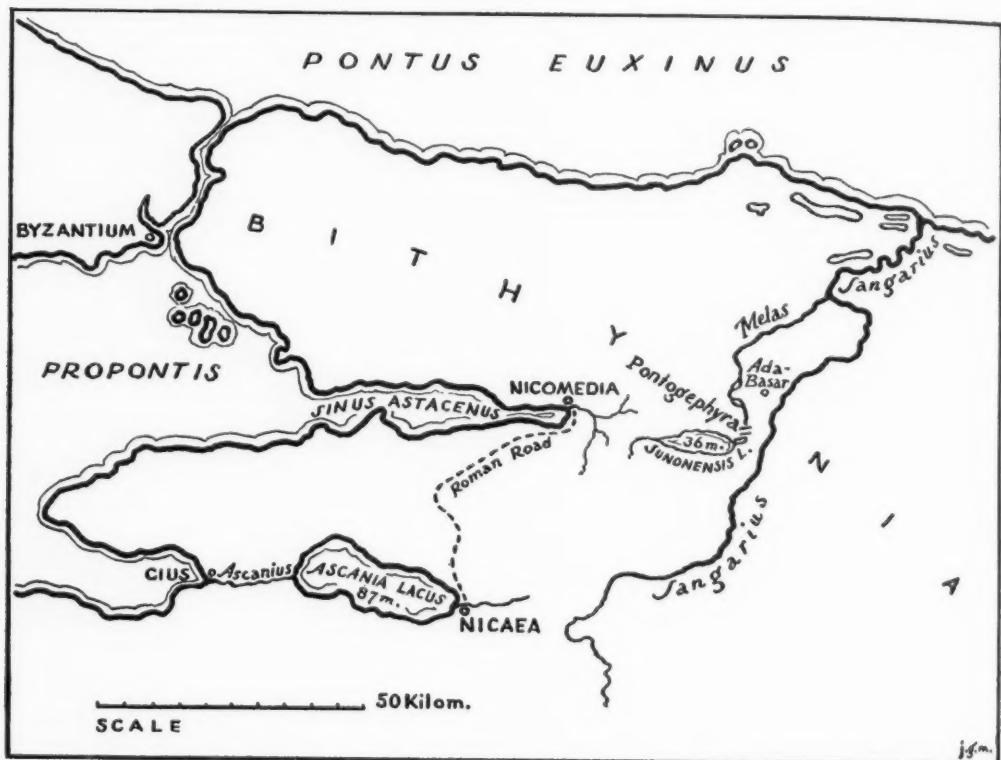


FIG. 1

to make that stretch of the river navigable by means of *piscinae*, in which water was accumulated and then released, obviously by some form of sluice-gate. The use of *piscinae* in the plural has been explained as intimating that at several low spots in the Tiber the same method was applied in dry seasons, to keep downstream traffic in motion.

To introduce such a system had of course required permanent dams, one *agger* (or *moles*) for each *piscina*, though gates might be used

water involved in the process which at first sight might appear to be described by a man of practical bent and trained in the counsels of the thriftiest of emperors. One cannot however reasonably suppose the Elder Pliny to mean that water at such a time was slowly stored up for days by means of a single gate that held back the flow of a certain stretch of the river; and then that at the proper time, when the gate was suddenly opened, hoarded water was wastefully allowed to run away all at once. In that

⁶ For portcullis-like gates see below, pp. 99, 102, 105.

case he could not venture to speak of the Tiber as navigable, with such evident risk to craft, cargoes and boatmen suddenly projected pell-mell through a single gate, not to mention possible damage to the gate itself at the critical moment.

There is in fact no escape from an inference that sluices designed for such a purpose must have been provided with two *cataractae*, vertical gates, one at each end of the *piscina*, to be raised and lowered by a windlass, after the manner of a portcullis,⁷ to which they evidently owed their name, and not to the very temporary waterfall produced when such a gate was raised. The same method was applied seasonally to help boats, barges and rafts navigating two tributaries of the Tiber in the same region, viz. (1) the Clanis (Glanis), now Chiana, south of Arretium and formerly reaching that river east of Volsinii (Bolsena); and (2) the Tinia, rising near Nuceria in Umbria and emptying into the Tiber south of Perusia.⁸ Our authority for these is the same passage in the Elder Pliny.

While in Bithynia Pliny the Younger is waiting for the arrival of the army engineers, to give their opinion on his projected canal, it will not be out of place to pause and briefly consider his most ancient precedent in what were in his time its more modern phases.

For the Ptolemaic restoration of the older Nile-Red Sea canal of the Pharaohs we have conflicting statements. Diodorus Siculus (1.33.11) says Ptolemy II completed it, with a gate at the most suitable place, to be opened and closed quickly, *raxēs*. Completion of the canal at that time is confirmed by Ptolemy Philadelphus' own

hieroglyphic inscription, set up in 265/4 B.C. at Herōopolis (Pithom) and discovered by the eminent Genevan Egyptologist Edouard Naville in 1883 (cf. his *The Store-city of Pithom* [3rd ed. 1888] 18 ff.).⁹

It is evident that not only Diodorus but also our other authorities on the canal paid no attention to Red Sea tides, although Herodotus (2.11) had mentioned them in a single brief sentence, nor to seasonal variations in the level of a canal which rose and fell with that of the Nile. If the tide amounted, as it does today, to more than six feet, it seems obvious that the mariner had only to wait for the tide to reach the proper level, and could then sail out or in without nervous haste.¹⁰

Strabo (17.1.25) states that the Ptolemies, on cutting their canal through, "made it so that it could be closed" (*κλειστὸν ἔτριησαν τὸν εὔριπον*; see below, p. 101), and nothing is said about haste, which would certainly have been considered not only a hindrance but even a hazard. Yet he says they could sail out and in again without hindrance. Of course that was possible only in case the canal was closed by a lock, that is, by two gates (*cataractae*) enclosing a basin (*piscina*) of suitable length (cf. pp. 98, 102, 104).

Pliny the Elder (*Nat. Hist.* 6.165) has Ptolemy II starting his canal at *Daneon portus*, a harbor not certainly identified, on the Sinus Herōopolitanus, which was the extreme north end of the Sinus Arabicus, whose waters, as has now become evident, at that time extended many miles farther to the north than they do today. He represents Philadelphus as carrying the

⁷ Cf. Dion. Hal. 8.67.7; Livy 27.28.10 f.; Vegetius 4.4. The same words served for 'sluice-gate,' as in Heliod. *Aethiopica* 9.8.5, or for the entire sluice, e.g. in Ammianus 24.1.11. Such vertical lock-gates were used on the Early Renaissance canals; cf. p. 105 and note 32; J. P. Richter, *The Literary Works of L. da Vinci*, 2.181; 360 fin.

⁸ Strabo 5.3.7 *sub fin.* mentions these smaller rivers and their service to trade at Rome; cf. 5.2.10. Before the middle ages the valley of the Clanis had become through neglect a most unhealthy region with pestilential marshes. In Leonardo da Vinci's time there was a long lake there (larger with its marshes than was Trasimeno), as he represents it on his colored map; cf. Richter, *op. cit.* 2, pl. cxiii. In more recent times the

course of the Chiana has been altered so that it drains into the Arno; Nissen, *Italische Landeskunde*, 1, 305; 2.314 f. For a defence of "temporary freshets" as a possible explanation of the *Nat. Hist.* passage see the article of Professor G. H. Allen of Lafayette College in *CW* 27 (1933) 67 fin.-68.

⁹ Also his "La Stèle de Pithom," *Zeitschrift f. Aegyptische Sprache* (1902) 1 ff.; Brugsch and Erman, *ibid.* (1894) 74 ff.; Koehler, *Sitzber. d. Berl. Akad.* (1895) 965 ff.

¹⁰ For the Suez Canal no locks are required. But it does not connect a sea with a river subject to great changes of level. Hence the problem is a different one, especially for ships with modern power.

canal toward the Nile, but only to stop at the *Fontes amari*, formerly supposed to have some connection with the Bitter Lakes. But Naville's discovery of the canal inscription (cf. above, p. 99) at Herōopolis has resulted in radical changes in our maps of the region for ancient times. These now show the site of that city near the eastern end of the Wady Tumilat, and not far from the northernmost of those lakes (Timsah); and below it a fairly straight inlet some fifty miles in length down to the present Suez, for the topography of the region has been altered by changes of level. A canal of the 3rd century B.C. to connect the Nile with the nearest arm of the Red Sea did not have to be carried below the Bitter Lakes of today.

For the alleged, but quite inconceivable, abandonment by Ptolemy of his purpose to reach the Nile a reason is assigned by Pliny,¹¹ viz. the fear of inundation, for the Red Sea was found to be three cubits higher than Egypt. Some of his authorities, he says, gave a different reason—the fear that Nile water would no longer be potable. The latter alarm, according to Aristotle (*Meteor.* 1.14.352b) had caused Darius I to give up his canal; and Strabo (*loc. cit.*) confirms the abandonment of operations at that time.

Although Pliny is quite mistaken in denying that Philadelphus' canal ever reached the Nile,¹² he is correct (§167) in stating that he gave his own name to the *amnis* which flowed past Arsinoë, and the word can here be understood only in the narrower sense in which *ποραμός* was used, particularly in the papyri. He certainly

¹¹ How he imagined the canal could have been operated without a continuous supply of water from the Nile remains an unsolved puzzle. Similarly we have our doubts when a Pharaoh or a Darius is said to have left his canal incomplete, especially if the Bitter Lakes had been sweetened by influx from the river, as in Strabo, who informs us (§26) where the canal (obviously in operation in his day) left the Nile; also that it was 100 cubits broad with a depth suitable for large vessels.

¹² Cf. J. O. Thomson, *Hist. of Ancient Geography* (1948) 137, n.; 273, n. 3.

¹³ As might be inferred from Rackham's translation (*LCL*), perhaps influenced by the *Thesaurus L. L.*, in which Ammianus alone (24.4.8) furnishes a solitary instance of *amnis* = 'canal.' Mention is there made of

does not mean a river¹³ whose name Ptolemy had changed.

Arsinoë was to be the seaport at the mouth of Philadelphus' Great Eastern Canal, but in time suffered the fate of many another city founded by the sea but later stranded as its waters receded. In Strabo's time Arsinoë was still there, near Herōopolis, "in the inmost corner of the Arabian Gulf" (17.1.26). Its successor for trade and travel came to be Clysma; cf. *Itin. Anton.* 170.

Among modern authorities who have accepted the hydraulic lock as placed by Ptolemy II at the lower end of his canal may be named:

Dr. John Ball, an eminent engineer who gave over forty years of his life to geographical and geological exploration in Egypt, the Sudan, and adjacent regions. In his *Egypt in the Classical Geographers* (Cairo, 1942), p. 48 f. we find him summarizing Diod. Sic. 1.33.11, on the completion¹⁴ of the canal by Ptolemy, "who provided it with a lock"; cf. 81 ff.

E. H. Warmington, *The Commerce between the Roman Empire and India*, p. 8, after mentioning the Herōopolite Gulf, says "where the second Ptolemy, who cleaned out the wide and deep canal-channel and added locks to prevent flooding from the Red Sea, had founded Arsinoë." Cf. 331, n. 7.

G. Hanotaux, *Hist. de la Nation Égyptienne* 1.147 speaks of Philadelphus' "écluse à deux portes."

A. Calderini, "I Precedenti del Canale di Suez nell' Antichità," *Aegyptus* 20 (1940) 224, summarizing Strabo 17.1.25, says that the

two unnamed cities *quas amplexi facerent insulas*, "which were in islands made by the winding river" (?). So Rolfe's translation. But in the *Thes.* article the canals are understood to be those connecting Euphrates with Tigris. Strange is the omission from the same article of another example in the passage just cited from the *Nat. Hist.* One might well add a cross-reference to *Augustanica* (Ammian. 22.16.1 and 3; *Not. Dign.* Seeck, *Or.* 1.127; 23.7; 28.37). For that province derived its name from Trajan's restoration of the Ptolemaic canal, i.e. indirectly from *Traianus ποραμός*, often mentioned in papyri and in Roman Law texts; in official language *Traianus amnis*. Cf. Ball, *op. cit. infra* 82, n.; Ptol. 4.5.24.

¹⁴ More correctly it was "restored after disuse," Thomson, *op. cit.* 136.

Ptolemies, having completed the excavation, closed the canal "con una doppia porta."

A. Bouché-Leclercq, *Hist. des Lagides* 1.241 f. says, apropos of Arsinoë, just where the canal "pourvu d'une écluse de marée, débouchait dans le golfe d'Héropolis."

C. H. Oldfather, Diodorus Siculus (*LCL*) *loc. cit.* translates διάφραγμα 'lock'; and one may find support for this word in the definition 'lock in a canal' in Liddell and Scott, citing *Petrie Papyri*, Mahaffy, 3. p. 343 (3rd cent. B.C.).

J. Toutain, *L'Économie Antique*, 187 f., includes a passage translated from Strabo *loc. cit.* containing the words "pour fermer par une double porte l'espèce d'europe ainsi formé," with a note: "Cette double porte n'est autre chose qu'un système d'écluses." Both in the original and in the English version 'a closed passage' (p. 146) for 'espèce d'europe,' there is an unnecessary avoidance of what is really meant, viz. 'écluse' and 'canal lock' respectively. In using the word εὐπόρος Strabo evidently meant the canal itself (cf. above, p. 99), and was making no comparison with *the strait* or any other.

Thus it would seem clear that the hydraulic lock was in use as an aid to navigation in Egypt at least by 260 B.C., while there remains no real doubt that the invention had by that time had a long history under the Pharaohs.

For example, a voyage down the Red Sea to the Land of Punt, in the far South (Somali Coast), and a return voyage with rare and precious cargoes, to be unloaded at the capital on the Nile, not long after 1500 B.C. (XVIIIth Dynasty), was commemorated by a series of monumental reliefs near Thebes. These adorned the walls of the temple of Der el-Bahri, dedicated by the young queen Hatshepsut, under whose nominal direction the expedition had been carried out.¹⁵

In order that the large vessels portrayed should use the Nile to reach Thebes, it is obvious that a canal from the Red Sea must have been in operation; also that a lock at the seaward

entrance was indispensable. It has sometimes been supposed that these ships were built on the Nile and used the canal both going and coming, but this question is quite immaterial. That knowledge of locks could remain limited to Egypt and never find its way to the rest of the Hellenistic world and the Roman West is simply incredible.

To return at last to our governor of Pontus and Bithynia, we must at once concede that his preferred project for a canal to reach the port of Nicomedia was an undertaking quite inconceivable without a series of locks.

When his second letter on that subject (61) reached Rome, what decision was the Emperor to make, as between two contrasted projects? One of these (above, p. 97) may be described as an emergency measure, promising its aid for the armies soon to be advancing in the East, whereas the second, demanding much more time and expense, could hardly be completed without serious delay. For an answer to that question we look in vain for the merest hint. Whatever further letters touched upon this subject—and one cannot believe that there were none—appear to have been deliberately suppressed by the editor of this collection of official correspondence, himself perhaps an official, who may have received explicit instructions in this instance. We may guess that Trajan, under the weight of more pressing cares, lost his interest in Pliny's two distinct projects on receiving further details. His military *libratores* or *architecti* possibly declined to approve, pointing to this objection or that, perhaps in particular the elevation of the lake. It is clear, however, that when he was dictating Ep. 62 he was not deterred by the tentative figure of 40 cubits furnished to the governor by *artifices regionis huius* (41.3) for the difference of elevation between Lake Sunonensis and the Bay at Nicomedia. We may surmise that (1) he was preparing to accept the first alternative proposal with its important saving of time

¹⁵ Cf. H. Kees, *Aegypten* (1933) 121 f.; J. H. Breasted, *A History of Egypt*, 2nd ed. (1916), 276 f.; *Ancient Records of Egypt*, 2, 102 ff.; E. Meyer, *Geschichte des Altertums* (1928) 2, 2nd ed. part 1.116 ff.; Maspero, *Histoire ancienne* (1897) 2.247 ff.; cf. 1.495 f.; E. Naville, *The Temple of Deir el Bahari* (Egypt Exploration Fund, 1894) 21 ff.; pls. VII-X; also the larger pls.

and outlay, presuming possibly that boatmen would at first accept the hardships of the *diolkos* method of transhipment; or else (2) that he had actual knowledge of canals where an even greater *dislivello* had been overcome by sluices having a gate at each end of the *piscina*, in other words by locks, even a series of locks, each closed at both ends by a *cataracta*, closely resembling a portcullis, with which every Roman soldier was familiar, both in permanent camps and in city gates.

But when the army engineers from Lower Moesia and Rome arrived, figures for the level of the lake must have taken an upward turn—not 60 feet but possibly 118 (36 metres by our modern maps)¹⁶—and objections to a work on such a scale mounted if anything like a series of 10 or 12 locks was to be required. Higher figures for the elevation of the lake, once established, cannot have failed to be reported by Pliny, and the same must be true of other serious objections, if raised by army engineers. Of all this, however, nothing has survived, nor of further correspondence if the matter was under consideration for some time.¹⁷

Trajan had remained long enough on the Rhine to be well informed on canals constructed by legionaries on its lower course, notably that first of Dutch canals,¹⁸ finished by Drusus in 12 B.C. and used by him in that summer for his first German campaign, when he sailed along the coast as far as the mouth of the Weser. His canal connected the Rhine with the Yssel, leaving the former above Arnhem. At Doesburg (15 km. northeast of Arnhem) it seems to have met the Old Yssel, which flows northward into the Zuiderzee (Flevo Lacus), now called the Ysselsee, near Kampen. Further digging must have been necessary to connect the lagoons

¹⁶ There remains the possibility that levels may have changed somewhat in this earthquake belt, in which these very cities suffered seriously several times over, e.g. under Hadrian, Marcus Aurelius, and Julian.

¹⁷ In that case suppression of pertinent letters of later date may well have seemed advisable, to avoid the appearance of extensive preparations for an invasion of Armenia and Parthia. Cf. Cuntz in *Hermes* 61 (1926) 201 f. This may perhaps suggest that book 10 was published before the war actually began in 114 A.D.

¹⁸ The Fossa Drusiana of *Annals* 2.8.1. and Suet.

mentioned by Tacitus, or to make the *ingens lacus* of Mela 3.24 navigable, also to provide a seaward exit, so that the fleet could pass out into the North Sea.

Drusus' second and third campaigns against the Germans required no use of his fleet, but in 9 B.C., a few months before his death, orders to improve the canal were being carried out. This time a dyke (*moles* or *agger*) was being thrown up, to divert the main current of the Rhine (i.e. the Vacalus, now the Waal) away from the south side of the delta. Thus he would supply much more water to his canal and at the same time attach the Insula Batavorum more closely to Roman territory. The dyke seems to have been progressing¹⁹ a dozen kilometres southeast of Arnhem and the same distance from the entrance of the canal. But it was left unfinished, not to be completed until 55 A.D. by Pompeius Paulinus, who then commanded the army of the Lower Rhine. In 70 A.D. Civilis, the Batavian, destroyed the dyke in order to make Germany less accessible in the north to Roman armies, by restoring conditions which Drusus had planned to change.

Meanwhile another canal 23 miles long had connected the Meuse (Mosa) near its mouth with what is now the Old Rhine at Leyden. The latter was in ancient times the principal mouth of the river, now a minor stream which is pumped into the North Sea, while the great volume of the combined Meuse and Rhine reaches the sea at the Hook of Holland, not far from the south end of the Roman canal of Corbulo, constructed in 47 A.D., after Claudius had obliged him to give up further campaigning in Germany (*Annals* 11.20.2; Cassius Dio [Xiph.] 61.30).

Pompeius Paulinus, not content with his completion of Drusus' work in its final stage, the

Claudius 1.2 (in plur.); cf. Jullian, *Hist. de la Gaule* 4.142. For operations against the Chauci see Livy *Epit.* 140; Cass. Dio 54.32.2. Drusus' canal was used by his son Germanicus in A.D. 17. He had sent four of his legions through it two years before; used by Corbulo in 47; *Annals* 2.8.1; 1.60.3; 11.18.2.

¹⁹ Just where the river forks into a right arm (Nederrijn, farther down known as the Lek) and a left arm (the Waal, Vahalis in Tacitus), in other words at the eastern (acute) angle of the Insula Batavorum; cf. *Annals* 2.6.5. For the destruction of the dyke see *Hist.* 5.19.

diversion of the Vacalus to the north side of the Rhine delta, was now ready to cooperate with the general in command on the Upper Rhine in his project for a far more impressive waterway, namely to connect the Arar (Saône) with the Mosella, in other words the Rhone with the Rhine, if Nero's approval could be secured. Son of a senator from Arelate (Arles), as it appears from *Nat. Hist.* 33.143, he was doubtless well acquainted with canals in the lower Rhone country, e.g. the Fossae Marianae, which connected Marius' camp at Arles directly with the Mediterranean while he was preparing in 103 B.C. for the coming of the Germanic invaders, and required a more navigable channel than that of the Rhone.²⁰ In that region we seem to know of no ancient canal that had to be carried over a watershed, differences of level being insignificant in the Bouches-du-Rhône.

Very different was the planning of a canal intended to surmount the ridges which separate the sources of the Mosella from those of the Arar, a problem for whose solution it would have been necessary, according to our hydraulic engineers, to wait until the fourteenth or fifteenth century. An obvious truth, provided it can be proved that in antiquity no one had ever seen a lock in operation—the only known means of overcoming such differences of level. Yet we have here Roman army engineers serving on the Rhine seriously proposing to carry a canal over a range west of the Vosges, presumably at the lowest practicable elevation. And if *libratores* and *architecti* were rash enough to propose what could never be carried out, there were their superior officers, the *praefecti castrorum*, to re-

strain them. Months of preparation in a preliminary survey, to determine exactly the route to be followed, and in planning the entire operation, to be begun at the same time from both sides, would have given the two generals-in-command ample time to veto the project if they found it something absolutely unheard-of. Certainly if they knew of no means to surmount the watershed we are entirely at a loss to explain how the generals could present their project to Nero without the most positive assurances that the thing could be done with the resources at their command. Furthermore it is equally difficult to believe that Tacitus could deplore the abandonment of a noble undertaking if he knew that it was from the start impossible, doomed to defeat, as all would have admitted if such a thing as a lock did not exist.

In that year, 55–56 A.D., the four legions of the Upper Rhine were commanded by Lucius Antistius Vetus, one of Trajan's predecessors²¹ in that region, and it was Vetus²² who originated a plan to unite the two principal tributaries of the Rhone and the Rhine. But obviously the full cooperation of Paulinus was indispensable.

In *Annals* 13.53 we read that these two generals, disgusted by lavish distinctions bestowed on other commanders (i.e. by Claudius), "were anticipating greater glory from the maintenance of peace . . . But not to keep their troops unemployed, Paulinus finished the dyke to control the Rhine, a work which Drusus had begun 63 years before [cf. above, p. 102]; and Vetus was planning to link the Arar with the Mosella by constructing a canal, so that commodities²³ received by sea, carried then up the

²⁰ This canal was just east of the delta, and gave its name to the port at its entrance, now represented by a village still called Fos.

²¹ Trajan may well have heard of the Rhone-Rhine project at Moguntiacum (Mainz). The archives of his headquarters there must have contained not a few letters in which the proposal was mentioned.

²² He was still in command on the Upper Rhine in 56 A.D., when his soldiers were building a bridge over the river at Mainz, as is shown by an inscription from one of its piers, bearing his name with that of a consul; *CIL* xiii, 6820. Vetus' son-in-law Rubellius Plautus, great-grandson of Tiberius (descended also from Octavia Minor, sister of Augustus) and feared as a possible pretender, was executed in the year 62

(*Annals* 14.59). Nevertheless in 64–65 Vetus was proconsul of Asia (*ibid.* 16.10). Long provincial service had given him opportunities to accumulate a store of geographical knowledge of wide range, brought to book in *commentarii* which he left at his death by suicide in 65, after returning from Asia (16.11). Upon these the Elder Pliny drew to such an extent that he names Lucius Vetus as one of his sources for all four of his geographical Books (3–6). To these works of Vetus we may surmise that Tacitus was in part indebted for his brief account of the canal project and its fate. Nero's rejection may have been due primarily to the general's relations with Rubellius.

²³ No doubt including military supplies, but not troops (as some have taken *copiae*), certainly not in

Rhone and Saône, might make their way by that canal, then down the Moselle river into the Rhine and so to the Ocean; and also so that, with the hardships of transport by roads removed, the coast of the Western Sea and that of the North Sea might be connected by shipping. This project roused the jealousy of Aelius Gracilis, governor of Belgic Gaul, who dissuaded Vetus from bringing his legions into the province of another,²⁴ and seeking to win the favor of the Gallic provinces; and he kept repeating that it would alarm the Emperor, a method by which noble undertakings are very often brought to nought.²⁵

So far Tacitus, who unmistakably considered it a project of the first order, even though nothing was really accomplished. It is clear that what they proposed was to his mind an actual waterway from the Western Mediterranean to the North Sea, without any resort to portage. Witness the emphasis with which he adds that the coasts of two widely separated seas were to become *navigabilia inter se*,²⁶ a phrase uniquely applied to *litora*, as shores imagined to reach one another through an artificial channel in a remote inland. And this after noting that there would be none of the wear and tear of road-transport. Can we suppose the historian to have given no consideration to the problem and to the means which the generals and their engineers were proposing for its solution? Obviously no continuous waterway could possibly be carried over such a watershed without repeated use of a

device capable of overcoming important differences of elevation, in other words a series of *piscinae* (cf. pp. 99, 102), each presumably provided with a vertical gate (*cataracta*), to be raised and lowered at each end of the enclosed basin. Certainly Tacitus gives no intimation of the least doubt that such a canal could have been carried up to the required elevation and down again.²⁷ To him it would have been a noble undertaking, by no means an impractical dream.

Modern engineers incline to believe that the hydraulic lock was first invented in the Italian Renaissance; that antiquity had no adequate means of overcoming any considerable difference of levels in rivers or canals. Thus, for example, General William Barclay Parsons, chief engineer of the Cape Cod Canal and of other notable public works, devoted years of scholarly research to the achievements of his profession in the inventive period just named. The results of these labors appeared seven years after his death.²⁸ On the first page of his fully illustrated chapter on Locks (pp. 372-398) he sums up his opinion in these words: "The lock is unquestionably of Italian origin and is the greatest single contribution to hydraulic construction ever made." After mentioning the medieval use of "single barriers, or weirs" in canals for irrigation,²⁹ together with more recent examples, he adds: "The first device intended primarily and solely to permit boats to overcome, on their own bottoms, a difference in elevation was constructed

large numbers, for they were recruited in the region. Advantage to the army is evidently subordinated to commercial expansion, a sop to the Gauls, as also to Roman merchants.

²⁴ This "bringing his legions into the province of another" (within which limits the whole Rhine army had long been stationed) was a diplomatic pretence quite transparent at the time; cf. p. 106.

²⁵ A thorough discussion of this passage, of the entire project, and what it implied, appeared in *CW* 27 (1933) 65-69. Its author, Professor George H. Allen, gives much information concerning the Canal de l'Est of today and its numerous locks. An interesting paragraph describes inland navigation in Pennsylvania of the 1830's, with a series of inclined planes on each side of the watershed, to reach the summit level of the Alleghenies (p. 69), each series a modern *diolkos* operated by steam-power.

²⁶ This has been rendered "internavigable" by Professors G. G. Ramsay (1909) and Allen (*loc. cit.* 66) — a coinage aptly expressing the novelty of the original but unlikely to find its way into circulation.

²⁷ What information was available as to the elevation of the watershed above that of the head of navigation on the rivers is unknown. If the province governed for four years (89-93 A.D.) by Tacitus was Gallia Belgica, as is commonly supposed, his knowledge of the region including its rivers may well have been extensive.

²⁸ *Engineers and Engineering in the Renaissance*, Baltimore, 1939.

²⁹ For irrigation such weirs were, of course, widely used in antiquity, notably in Egypt, Mesopotamia, and the plains of the Po. On navigable canals in Egypt and elsewhere no ancient evidence appears to have been presented to show that locks were never in use.

in the Naviglio Grande in 1395.³⁰ It was used in bringing marble and granite from the shores of Lago Maggiore for the Milan cathedral. A later date (1438–39) is given by Guido Ferro, professor in the engineering school at Padua and author of the article *Conca* (1931) in the *Encyclopedie Italiana*. For the first detailed description now available of a canal lock we are referred to Alberti's famous *De re aedificatoria*.³¹ According to Mancini, *La vita di Leon Battista Alberti*, 2nd ed. 281, the book was virtually completed before 1450 and already winning favor from his patron Nicholas V. It was not printed, however, until 1485, in Florence, thirteen years after the death of its author.

In the description just mentioned one finds nothing in its language to suggest that Alberti thought the step from one gate to two was a momentous novelty. As to the form of the gates, he describes two kinds: (1) vertical, raised and lowered by a windlass; (2) "most convenient of all," horizontal, turning on a spindle in the middle, "a broad square valve, like the square sail of a barge." So Leoni's quaint English, combined with Bartoli's Italian version in a London folio of 1739 (book 10, ch. 12).

What is true of Alberti's ample writings is even more conspicuously true of the voluminous works of Leonardo da Vinci. No one appears to have discovered in all his numerous references to canals and his directions for their construction and maintenance any claim for his age in even a reinvention of the hydraulic lock.

Catanaeus, a younger contemporary of Leonardo, and an early editor of Pliny's *Letters* (2nd ed. Venice, 1519), has a note on Ep. 10.61.4 which shows his understanding of *cataractae*. Of their use as aids to navigation he gives a Renaissance example, viz. the canal from the river Adda to Milan. There follows a comment on Diod. Sic. 1.33.11 f. in these words:

³⁰ This navigable canal connected the river Ticino with the moat of Milan; *op. cit.* 367 f.

³¹ *Op. cit.* 374 f., a somewhat condensed translation of Alberti's Latin directions for making a lock with two gates, one at each end.

³² Parsons, 373 ff. with fig. 132 and others, including some of Leonardo's sketches; also on the Laurentian MS, pp. 373, 376; Mancini *op. cit.* 287 (editor also of this MS with its numerous drawings). For Leonardo's interest in canals and locks see J. P. Richter *op. cit.* 2.

"in fossis vero manufactis per cataractas non difficiles ascensus et descensus," implying that to his mind locks were an ancient invention.

The Laurentian Library in Florence possesses a valuable MS (Ashburnham 361) of unknown authorship, but dating from the last third of the fifteenth century. This book has been hastily attributed by some to Alberti, by others on no better grounds to Leonardo, who at one time had it in his hands and added remarks of his own in that unmistakable right-to-left script. None of these, however, touches upon canal locks. The book contains numerous drawings, one of which shows locks with a vertical gate (*cataratta*) at each end, to be operated by a windlass above an arched gateway.³²

From antiquity no similar representations in reliefs, frescoes, or otherwise seem to have survived, although ancient civilizations undoubtedly had many centuries of experience in the construction of navigable waterways. Nor can we cite detailed descriptions comparable to that of Alberti from a remote past. Yet it is unsafe to conclude that no evidence of the kind will ever be brought to light by the archaeologist's spade or a magnifying glass in the hand of a papyrologist. Equally unsound is it to discard such evidence as we have in inscriptions and ancient texts, simply because details are sparingly given, and in some cases not without palpable error.

Another kind of evidence for the traditional use of hydraulic locks in antiquity is furnished by each of the three projects treated in this paper. When under Nero two of his generals on the Rhine were proposing to connect the Arar with the Mosella not far from their sources (in the Monts Faucilles and the southern Vosges respectively), it is no mere probability that they knew of the one and only means to overcome intervening high levels.³³ They cannot possibly

181 ff. Cf. A. E. Popham, *The Drawings of L. da V.* 299; E. MacCurdy, *The Notebooks of L. da V.* 2.141 ff. and elsewhere. That interest continued even in the last two years of his life, when at Amboise he proposed a canal to connect the Saône with the Loire, as is known from a British Museum MS; cf. MacCurdy, *The Mind of L. da V.* 149 f. This canal was designed to furnish both irrigation and transportation; O. Sirén, *Léonard de V.* 1.169.

³³ See just below for approximate figures.

have been ignorant of their problem or ready to leave to their engineers its solution. No such ignorance or indifference can be attributed to Trajan in his replies to Pliny in Bithynia; still less to Justinian,³⁴ whose proposed revival of the same project on a more imposing scale must necessarily have presupposed a series of locks.

One observes that Tacitus, in abridging his sources for the passage in the *Annals* cited on pp. 103 f., does not mention the important share which would certainly have been assigned to Paulinus in the execution of any project for a canal between the Saône and the Moselle, if work was actually to be begun during his command of the Lower Rhine army. For necessarily a second base of operations would have to be established somewhere along the Moselle, preferably in its lower course, conveniently reached from the Rhine below the confluence. Construction would inevitably be begun from that side as well, so that work could proceed upward from north and from south until the summit-level of the water-shed should be reached, some 360 metres above the sea (1180 feet).³⁵ Vetus could not possibly assume responsibility for construction on both sides of the divide. The mere problem of supplies would of itself dictate that progress be begun in the upper valleys of the two rivers, and should be continued to a meeting-point in still higher regions of virgin forest inaccessible by roads.

It consequently becomes necessary to assume that Paulinus, or his successor as legatus in command of the legions of the Lower Rhine, would take charge of the whole section of the canal which was to drain into the Mosella. Hence the presumption that he cooperated also with Vetus in devising the plan, and then in developing a schedule of operations. All the major details may well have been settled even before the completion of the Fossae Drusianae (p. 102), a minor work in comparison with middle

³⁴ For the evidence, in Justinian's case literally tangible, in fact monumental, cf. p. 109.

³⁵ I.e. if the highest point was to be anywhere near that of the modern Canal de l'Est. Cf. Allen *loc. cit.* 67.

³⁶ Professor Allen, after weighing other partial solutions of the problem, concludes "that the designer, or some contemporary with whose idea he was familiar, had devised the hydraulic lock, anticipating in this by

links in the chain of what was to have been an imposing waterway from the Western Mediterranean to the North Sea.³⁶

The claim of Aelius Gracilis, governor of Gallia Belgica, that if legionaries were brought into his province to dig a canal, it would be an encroachment upon his territory, had no validity in the very special circumstances of that province in relation to the Rhineland. He had no authority to countermand, or to prevent the project from reaching the Emperor for his decision. For after the defeat of Varus in 9 A.D. Augustus had given up the idea of a frontier at the Elbe and a military occupation of the entire territory between that river and the Rhine. Accordingly the eight legions had been stationed on the left bank in the province of Belgic Gaul for 45 years already, but not under the command of the governor of that province, who in fact as a *legatus pro praetore praetorius* was lower in rank than the two generals-in-command. For they were *legati consulares*, whose permanent headquarters were respectively at Vetera (near Xanten, not far from the borders of Holland) and at Mogontiacum (Mainz). Meanwhile any organization of an Upper and a Lower German province was being indefinitely postponed. Until such long-deferred readjustment was to take place, in fact not before the reign of Domitian,³⁷ the two generals responsible for the maintenance of order in Gaul and its defence from a possible German invader were stationed, each with his four legions within the bounds of Gallia Belgica, nominally ruled by a governor who had no army. Yet the generals had all necessary authority to intervene wherever and whenever an emergency called for military action. This unique situation, in which a large province was under the direction of three men, one of them to our minds a civilian governor, and of lower rank than the other two, was liable at times to produce friction,³⁸ all the more that precise geographical bounds to their

almost fourteen centuries the course of technical progress"; p. 69.

³⁷ One of the early *legati consulares* of the then newly created province of Germania Superior was the eminent jurist Javolenus Priscus in 90 A.D.; *CIL* iii, 2864 (=9960), from Dalmatia, probably near his birthplace; cf. A. Riese, *Das rheinische Germanien in den antiken Inschriften*, No. 326.

³⁸ None seems to have been caused in a somewhat

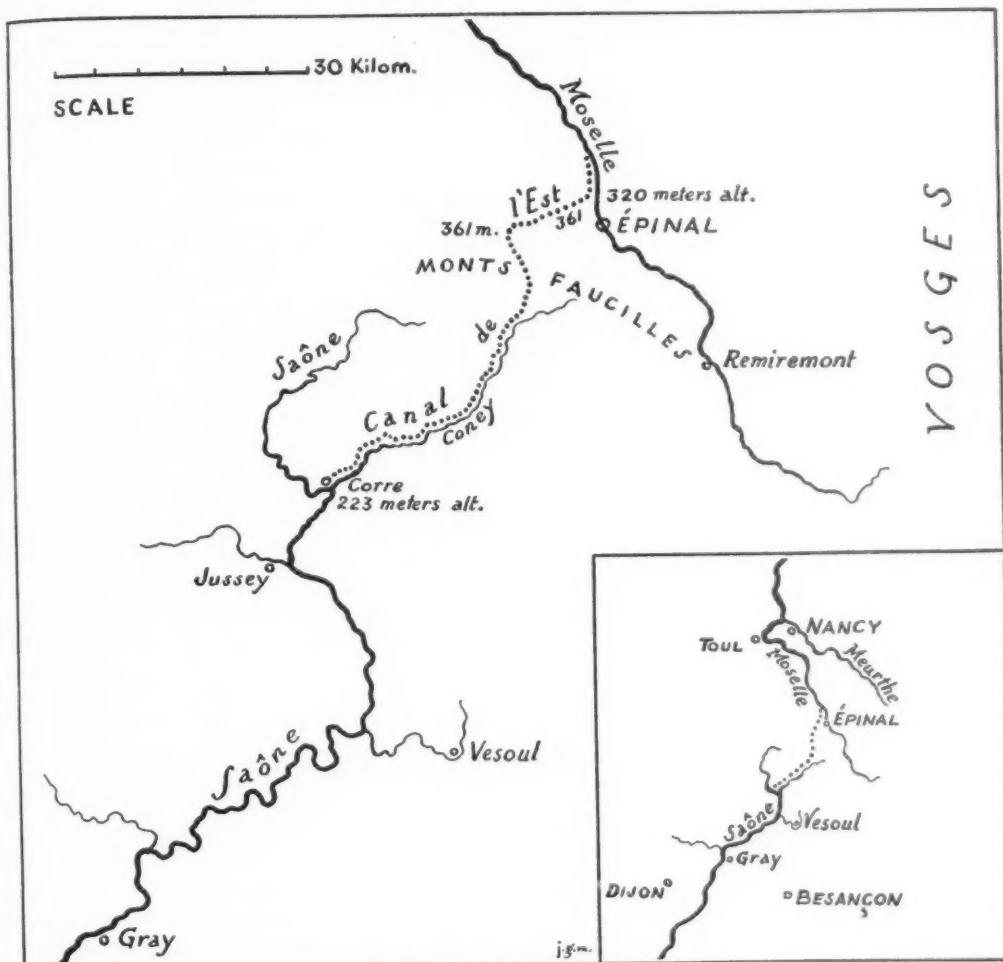


FIG. 2

spheres of activity were lacking. It is natural for us to speak of Upper and Lower Germany, at that time merely regions of Belgica, and in no sense provinces as yet. Nevertheless in a period of transition some administrative and judicial functions fell to the commanding generals as well as to the governor (Mommsen *ibid.* 153 f.).

In such circumstances we have to think of

the generals as burdened with a wide range of responsibilities for peace and order among tribes prevailingly Celtic, but with some Germanic elements also in the narrow strip between the Vosges mountains and the left bank of the Rhine. As for Paulinus and Vetus, their provisional border was drawn, it would seem, where their regions actually adjoined—a surprisingly short

similar situation in North Africa, when a road was needed to connect Carthage, in the unarmed province of Africa, with Tebessa (ancient Theveste), in Numidia, an imperial province governed by the legatus of the IIIrd legion. His soldiers were, of course, ordered to

construct the road in both provinces. Hadrian's milestones of 123 A.D. (e.g. *CIL* viii, 10048) bear the name also of the legatus. The road was 191 m.p. long, and still shows extensive remains. Cf. Mommsen, *Ges. Schr.* 8.136.

line from the Vosges across to the Rhine at the diminutive Abrinca, 11 km. above Remagen (Rigomagus).³⁹

The watershed which the proposed canal would have to surmount, if it was to follow the most available route, i.e. perhaps nearly identical with that of the Canal de l'Est,⁴⁰ interposed its barrier between two Gallic tribes, the Lingones on the south and Leuci in the north (fig. 2). Langres (ancient Andematumnum) preserves the name of the tribe whose chief town it was. Tullum (now Toul, on the Moselle) was the chief town of the Leuci, and connected with Andematumnum by a north and south road (*Itin. Ant.* 385), of great importance as the main line of travel from Lugdunum (Lyons) to Augusta Treverorum (Trèves, Trier) and the lower Rhine. It lay well to the west of the modern canal.

At that time unbroken forests covered a vast area in and near the Vosges, where canals are now operated under very different conditions, owing to extensive deforestation. Both Moselle and Saône in their winding courses have accordingly been canalized in recent times on an extensive scale, with numerous locks even far below the watershed, to expedite the movement of larger craft and heavier cargoes than antiquity required. Thus the Saône has fifteen locks between Gray, northeast of Dijon, and Lyons, eleven of them below Auxonne.⁴¹ Higher up the head of navigation on the river is at Corre, where the canal leaves the river at the confluence of the Coney, 223 metres above the sea, to make its way up the valley of that small stream. After rising for 50 km. and through 46 locks it reaches the maximum level of 361 m., to continue for 13 km. more at that elevation.

³⁹ Cf. Ptolemy, who places the boundary still at the same brook (Vinxbach), 2.9.9 Miller; or 2.8, p. 61 Stevenson.

⁴⁰ Not to be confused with the Rhône-au-Rhin canal, which at St. Symphorien (Côtes d'Or) leaves the Saône for the Doubs at Dôle, and continues up the valley of that river, to reach the Rhine near Mulhouse and again at Strasbourg.

⁴¹ Cf. P. G. Hamerton, *The Saône, A Summer Voyage* 163. Below Auxonne the river was navigable, he says, in the thirteenth century, and had a towpath used by crusaders' chargers all the way to Lyons. Based on de Joinville, *Hist. de Saint Louis*, sec. 123.

⁴² This makes a total of 60 locks with an average lift of 3 m. (9 ft. 10 in.). For the figures above I am in-

Then begins the descent, 14 locks⁴² in 3 km. to 320 m. at its junction with the Moselle, 3 km. below Épinal.

Reverting to Pliny's second and more studied plan for his projected Bithynian canal, it will be remembered that in this he introduced one novel feature, nothing less than a reversal of the current in Lacus Sunonensis (cf. p. 97). This was to be accomplished by stopping up the normal outlet of the lake at its eastern end, namely a small river, later called Melas⁴³ and now Tschar-Su. This is a tributary of the Sangarius, into which the lesser stream, after ca. 50 km. in its own valley, separated by a ridge from that of the great river, finally empties at about 35 km. from the Black Sea. The plan was to provide a new outlet at the western end of the lake, namely a canal directly to the harbor of Nicomedia.

Whatever may have been the experts' opinion on that new feature of the project, it is interesting to note that the same proposal to reverse the current by converting an outlet into an intake was revived after almost 450 years, near the end of Justinian's reign. Much more impressive, however, is the scale of that undertaking. Its apparent purpose was to add immensely to the commerce of the same seaport by diverting the Sangarius itself to the west, and then (probably near the present town of Ada-Basar) again to the southwest, to deliver at least the larger part of its waters into the east end of the lake. From its west end down to the sea the canal was evidently to be no narrow channel, such as Pliny proposed (p. 97; *Ep.* 10.61), but one adapted to larger vessels which should sail down the diverted river into the lake, and so to Nicomedia, bound

debted to Allen, *loc. cit.* 67, who has added a rare familiarity with European inland waterways. He had used French official maps, superior for such details to War Department maps of the same region, which have been widely distributed to our libraries. For practical convenience a Carte Taride (Est de la France, section Nord, No. 6) can be recommended, as clearly showing the route of the canal maintained for traffic of today. Useful also are maps issued jointly by the British War Office and our War Department, e.g. GSGS 2738, Nos. 17 and 23; on a larger scale (1:100,000) GSGS 4249 = AMS 661, Nos. 242, 302.

⁴³ For this name the earliest authority cited is Pachymeres, early in the xivth century; cf. p. 109.

for the capital or the Aegean. Incidentally there could be no danger of draining the lake away—a risk which may have contributed to Trajan's abandonment of a less ambitious project. Thus shipments from the interior of Asia Minor would be able to reach the Propontis directly, instead of through the gorges of the lower Sangarius, with their cascades and rapids, and then by a coastwise voyage requiring transshipment to larger craft, in order to reach the Bosporus.

The one remaining proof that what Trajan had rejected commanded itself to Justinian and his advisers is an imposing bridge across the diminutive Melas, 3 km. northeast of the lower end of the lake. This well-preserved bridge is 435 m. long (1427 feet)⁴⁴ and has eight arches of 23 m. (75 ft.) span. Its most conspicuous feature is the disproportion between this monumental structure and the small stream which ambles idly beneath its towering arches for most of the year. Not less striking to careful observers has been the plan of all the piers; for they have sharp angles to the north (downstream) and rounded surfaces to the south (upstream, toward the lake). Here then we have tangible proof (even in the literal sense) that Justinian's engineers were well acquainted with locks. For the elevation of the lake, at present 118 feet, did not deter them from finishing a monumental bridge⁴⁵ under which the water of a great river was some day to flow into its eastern end, but only after the whole elaborate project had been completed. Not until then was the original small outlet to be reversed and united with the broad current of a huge intake—nothing less than the diverted Sangarius.

That river still continued to flow towards the Black Sea, but at the nearest point it ran ca. 5 km. to the east of the bridge, as it does today, in a level country always subject to serious floods. These may have caused it more than once

⁴⁴ In comparison one notes that the Pont du Gard is 269 m. in length (883 ft.).

⁴⁵ For Justinian's bridge see von Diest in *Petermanns Mitteilungen*, Erg.-Heft 27.125 (1898) 70, citing von der Goltz on the plan of the piers and what that inevitably implies; also *ibid.* 20.94 (1889) 94 f. Von Diest's map is valuable (Bl. II). Cf. Ramsay, *Hist. Geog. of Asia Minor* 214 f., 460. South of this bridge lies an island crossed by a Roman road with two small bridges of which there are remains.

to shift its bed to the west as far as the bridge for a time. It is clear, however, that they have never been able to produce a reversal of the current, to flow into the lake, which since geological ages has never had an outlet to the west.

Procopius, writing at the time the bridge was under construction, in 559–560 A.D., relates that Justinian had lately undertaken the first substantial bridge over the Sangarius (Sangarius).⁴⁶ He does not say that Justinian diverted the river before building the bridge.⁴⁷ It is Theophanes who makes that statement,⁴⁸ adding that the Emperor made "five stupendous arches," which shows that the name had been corrupted to Pentagephyra,⁴⁹ for they are eight in number. Evidently no one had enlightened Procopius as to what was intended in addition to the bridge. He had no idea of a proposed reversal of the current, to be preceded by construction of a great bridge, with all its piers in reverse, nor any conception of the grandiose project as a whole. He must have thought of the river as still flowing northward.

Obviously the proposed change of direction from northeast to southwest was not to be made until every feature of a complicated project had been carried to completion. Surely it was never Justinian's intention to leave a minor tributary in possession of the portentous bridge over which the traveller from Nicomedia, following the north shore of the Sunonensis, could reach Paphlagonia and Pontus. Hence probably came the name Pontogephyra, of which we first hear in Pachymeres,⁵⁰ in a narrative of events occurring in 1296 A.D., 736 years later. To his mind apparently the Sangarius had been flowing under the bridge long enough to have that called its old bed, in contrast to the channel in which (some 5 km. farther to the east) it had flowed in ancient times, as it does today. Or was there confusion in his sources?

⁴⁶ *De aed.* 5.3.8 ff. Cf. Downey in *TAPhA* 78.181, n. 11. Permanent it remains but not permanently over the Sangarius; cf. p. 110.

⁴⁷ As von Diest incorrectly has it, p. 70, cited above.

⁴⁸ A.M. 6052 (de Boor 1.234; Migne, *P.G.* 108.513; *Corp. Scr. Hist. Byz.* 41.362). It is repeated by Landolitus Sagax in his additions to Paulus Diaconus, *Hist. Rom.*, Migne, *P.L.* 95.992 B.

⁴⁹ Landolitus shows the same corruption of the name in the *arcus mirabilis quinque* (*loc. cit.*).

⁵⁰ Migne, *P.G.* 144.364; *Corp. Scr. Hist. Byz.* 2.330 f.

The entire project shared the fate of Pliny's proposal to Trajan, as of that of the Rhine generals to Nero, whether complete abandonment of his great plan came in the last years of Justinian, or immediately after his death. Certainly the two rivers were left where they had been, the little Melas as sole outlet of the lake, and flowing under the immense bridge. On the other hand the Sangarius was free to roam in a level plain, when its flood-waters, retarded by the narrow gorges nearer the Black Sea, could for a time shift to the Melas valley, after passing under the bridge which was to have been theirs alone. But they have never made their unaided way westward into the lake, to cut a new channel down to the nearest arm of the Sea of Marmara.

As for a canal to connect lake and sea, the lack of any remains of such operations west of the lake forces us to conclude that not even a beginning had been made. Nor are there any indications that dykes or dams, necessary to a reversal plan, were ever in progress in the region northeast of the lake, that is, near Ada-Basar. Hence we can be quite certain that the bridge was the one and only part of that great project to be carried out. It was merely by anticipation of what was contemplated but never achieved that Procopius could speak of it as a bridge over the Sangarius, still some distance away.

Reverting to Pliny and his modest canal project, we may not overlook certain misguided efforts to shift the scene of operations to a different lake, i.e. the Ascania, in spite of a positive statement in *Ep. 41.2* that his *amplissimus lacus* was in *Nicomediensium finibus*, which cannot possibly be diluted into "in the neighborhood" of that city. It was, of course, the provincial capital, Nicomedia, that was to profit by this public work, while the lake with which Trajan and Pliny were alone concerned at the moment belonged to that seaport exclusively.

Nothing could have been more certain to rouse the bitterest feeling in Nicaea than any proposal to connect the harbor of their rival with the very lake on which their own city lay, in undisputed possession of its much ampler expanse of

water. And that at a time when internal peace and quiet in Bithynia were mandatory for Trajan in his preparations for a foreign war in Armenia and Parthia, inasmuch as Pliny's province would soon lie across main lines of communication with the front.

For another reason also it is absurd to drag Ascania Limne, the lake of Nicaea, into the study of these particular letters. In 41.4 Pliny, on a visit to the region of the Nicomedesian lake, had found evidence of an unfinished canal, begun probably by some former king, to connect the lake, it would seem, with a river nearer to Nicomedia and salt water. As for Ascania, which poured its waters into the Propontis down its own natural channel, which Vergil pointedly describes as *sonantem Ascanium*,⁵¹ no king would have undertaken a different outlet. At most it demanded canalization—no easy task, to be sure—on account of its sharp descent into the Bay. It was obviously in a quite different locality that Pliny made his archaeological find, not less than 30 miles away (as the crow flies) from Ascania Lacus at Nicaea.

A fourth reason for avoiding Sölch's preposterous identification is furnished by certain facts concerning the eastern end of the two lakes. In that direction Pliny's lake had its single outlet in an unnamed stream (later Melas, pp. 108 f.), emptying eventually into the Sangarius. He proposed to stop that outflow, no doubt by a dyke near the lake. Ascania, however, at its east end has no outlet at all, nothing in fact but small streams flowing into the lake! Yet such contradictions had no deterrent effect upon Sölch's theory,⁵² unaccountably espoused as a probability by Lehmann-Hartleben⁵³ without attempting to defend it. No more did the imagined necessity of surmounting a considerable watershed between Nicaea at 87 m. (hemmed in on that north side by mountains) and Nicomedia at sea-level by means of a canal to reach that harbor. Meanwhile Ascania, the larger lake, must be closed at its seaward end, and the roar of the river Ascanius was to be permanently hushed!⁵⁴

If Pliny's project was rejected or indefinitely

⁵¹ *Georg.* 3.269 f.; and well might it roar in reducing 87 m. to zero in less than 18 km.

⁵² *Klio* 19.169 ff.

⁵³ *Plinio il Giovane, Lettere Scelte* (with archaeological notes), 1926, pp. 20 ff.

⁵⁴ E. G. Hardy in his much used edition of the *Epis-*

postponed, possibly without much delay, the other two give evidence of careful and no doubt long-continued study, but only to end in frustration. That of Paulinus and Vetus, generals-in-command on the Rhine, promised great results by linking that river with the Rhone, if only Nero had not refused to approve. Justinian's purpose to revive the proposal of Pliny on a far larger scale might have brought prosperity to a whole region of Asia Minor nearest to the capital. Unhappily both of these came to nothing. One of them found its epitaph in an eloquent passage in a historian of whom it is almost certain that some 35 years later he was governor (above, n. 27) of the very province in which the

work would have been carried on. The other still has its enduring monument in a maximum of bridge pathetically spanning a minimal stream.

For us there remains the assurance virtually given by these three proposals that the lock was known and used in Roman and Byzantine times. To believe that these projects were the merest paper-work from the hands of men who had never seen or heard of a lock is a strain upon the credulity of any one of us, be he a practical engineer of wide experience, or only a scholar delving in books "with the secular dust on."

Cleveland, Ohio
November 1949

tulae ad Traianum (London, 1889) was probably misled by an inaccurate map of the smaller Lake Sabanja. For he says (p. 143): "At present" that lake "is connected . . . and also with the Gulf of Ismid on the

west." His "present river connecting the lake with Nicomedea," later described as possibly "Pliny's canal carried out," is absent from every map known to the writer.

NOTES AND DISCUSSIONS

NEW ILLUSTRATIONS TO THE ILIAD

KAZIMIERZ BULAS, Rome

PLATES XVIII-XX, A, B

OWING to the courtesy of the Metropolitan Museum of Art, I am able to publish here a new Trojan tablet¹ which was unknown to me at the time of the publication of my book *Les illustrations antiques de l'Iliade*, Lwów 1929, although it had been reproduced, on a tiny scale and with a brief commentary, in the *BMMA*, xix (1924), pp. 240 f., fig. 2.

The monument (pl. xviii), preserved in a fragmentary state, belongs to the well-known group of Trojan tablets representing episodes from the Trojan cycle, provided with explanatory inscriptions in Greek and presumably designed for the use of schools. The New York fragment is 18 cm. high and it is carved in limestone. Its central scene represents the Capture of Troy, whereas above it and to the right there are some episodes from the individual books of the Iliad, of which only the illustrations to Books Τ-Ω have been preserved, the illustration to the last book being incomplete. We see also some letters of the explanatory inscription to Book Σ. As a result of the disposition of those scenes which have been preserved and of their comparison with the Tabula Capitolina,² the left side of the New York tablet must be presumed to have been occupied by the illustrations to Books B-M running from top to bottom, whereas its right side was taken up by the illustrations to Books N-Ψ running from bottom to top. In the upper band, between Β and Ψ, the illustrations to Books Α and Ω were placed, and the remaining space was filled up by scenes from other poems of the Trojan cycle. In view of the fact that on the right side the illustrations to six books remain to be completed, the middle panel must have extended much further down and it must have contained episodes from the whole Trojan cycle, which also filled up, no doubt, the band between Books Μ and Ν, as is the case on the Tabula Capitolina. The inscription above the scene of the Capture of Troy certainly ran as follows: [ΙΑΙΑΣ ΚΑΤΑ ΟΜΗΡΟΝ]Ν ΚΑΙ ΙΑΙΟΥ ΤΤΕΡΣΙΣ.

The scenes of the Capture of Troy correspond faithfully to the same scenes on the Tabula Capitolina. We see here the City of Troy surrounded by walls and

¹ I express my heartfelt thanks to Miss Christine Alexander for sending me the photograph with the permission to reproduce the same.

² Jahn, *Griech. Bilderchroniken*; Mancuso, *MemLine*, vii, Vol. XIV (1911), pp. 662 ff.

towers, the whole being divided into two zones. In the upper zone the action takes place inside an open portico, and the space between the latter and the walls to the right is filled up by houses indicated in a schematic way. Of the scenes which take place inside the portico the only parts which have been preserved show, first, some Greeks about to leave the Trojan horse while the ladder is held firm against it by a stooping Greek, and second, above that scene, the figure of a vigorously striding warrior with a shield, who is none other than Ajax leading Cassandra away by force, as on the Tabula Capitolina. Between the portico itself and the city walls we can discern in the foreground a warrior aiming a blow at his fallen adversary. It is the same group as on the Tabula Capitolina, but inverted.

In the lower zone four scenes have been preserved. The surface of the central scene, which takes place inside a portico wholly similar to the preceding one, is very worn, but its composition obviously corresponds to the same episode on the Tabula Capitolina, which represents Priamos slain by Neoptolemos and the rape of Hecabe. In any case we can distinguish here, too, an altar and a warrior with a shield striding to the right. The figure of Neoptolemos alone appears on the fragment from Tivoli, once belonging to Thierry,³ whose preserved scenes of the Capture of Troy fully agree with the corresponding scenes of the Tabula Capitolina and consequently they agreed, no doubt, with the missing scenes of the New York tablet.

In the scene below we see Aeneas, in a Phrygian cap, going out through a city gate and carrying Anchises on his left shoulder. The identification of the scene is rendered possible by its comparison with the same episode on the Tabula Capitolina. The scene to the right of the portico finds its exact counterpart, too, on the Tabula Capitolina. We notice there Menelaos who has overtaken Helen on the steps of Aphrodite's temple and is struck by her beauty. The scene below cannot be identified in its present state of preservation, but it is fairly probable that it once represented Aithra in the company of Akamas and Damophon, as on the Tabula Capitolina. The part of the relief further to the right, close to the wall and below Aphrodite's temple, shows very likely an awkwardly designed gate, set back in the wall to increase its defensibility, which we also notice on the preceding gate of our relief and still better on the Tabula Capitolina. Troy had, of course, more gates, not only the Σκαλαι πύλαι, as appears from the expression πάσαι πύλαι Il. II, 809 and elsewhere. Of the episodes taking place outside the walls only a tiny

³ O. Rayet, *Études d'archéol. et d'art*, pp. 184 ff., pl. III.

fragment at the very bottom to the right has been preserved, where in view of a close correspondence between the New York relief and the Tabula Capitolina, one is tempted to see the head of the person attending the sacrifice at Achilles' tomb.

We pass now to a survey of the scenes of the Iliad. Of Book Σ only a remainder of the inscription ΙΛΙΑΔΟ[Σ Σ] . . . has been preserved. The next frieze, entitled ΙΛΙΑΔΟΣ ΤΘΕΤΙΔΟΣ ΠΠΑΡ(οντία) ΗΦΑΙΣΤΟΥ ΠΠΑ(ροντία), represents the same episode as on the Tabula Capitolina, but with some variants. Owing to its deterioration the details can hardly be discerned, but in any case the whole is composed of two parts: to the left there is Achilles arming, to the right we see his departure for the combat. Achilles (ΑΧΙΛΛΕΣ) is not putting on his greaves as on the Tabula Capitolina, but he is standing in front of his mother (ΘΕΤΙΣ) attended by a Nereid with the shield leaning on the ground. In the latter part Achilles is probably standing on his chariot together with the driver, and in front of the chariot we notice a man vigorously striding to the left while checking the rearing horses. The next frieze bearing the inscription ΙΛΙΑΔΟΣ Υ ΑΧΙΛΛΕΩΣ ΑΘΛΟΣ brings the scene of Aeneas saved by Poseidon. Aeneas (ΑΕΝΗΣ) knocked down to his knees is being attacked by Achilles (ΑΧΙΛΛΕΥΣ) while Poseidon (ΠΟΣΙΔΩΝ) (*sic*) flings himself between them. The presence of the god can be ascertained merely on the strength of the inscription, as in his place we see only a shapeless bulk. On the Tabula Capitolina the scene in question has been put in quite a different way: there Poseidon is running to help Aeneas who is also rushing to the right, while Achilles is already busy fighting other adversaries. According to Mancuso (p. 685) Aeneas holds in his hand a big stone with which he means to hit Achilles, but in view of the state of preservation of the relief this interpretation seems doubtful. It is possible that on the Tabula Capitolina this scene has been condensed by the sculptor for want of space, whereas on the New York relief it has been conceived in the form of a duel and so it corresponds more closely to *Il.* XX, 318–325. In the next frieze: ΙΛΙΑΔΟΣ Φ ΠΠΑΡΑΤΤΑΜΙΑ (*sic*) ΜΑΧΗ the scene to the left represents Poseidon (ΠΟΣΙΔΩΝ) (*sic*) and Athena (ΑΘΗΝΑ) comforting Achilles (ΑΧΙΛΛΕΥΣ) who is struggling with the swollen waves of the Skamandros (vv. 284–287). The same subject appears in the middle scene of the corresponding frieze of the Tabula Capitolina, but there the composition is inverted and Athena has been placed not behind Poseidon but between the latter and Achilles. To the right of that scene on the Tabula Capitolina we notice the Trojans fleeing from Achilles towards the city; the

corresponding scene on the New York tablet is hard to explain, which is partially due to its bad state of preservation. To the left, one can discern the lower half of the body of a striding naked man, to the right Athena (?) bent forward with extended arms, in the middle a man only the upper part of whose body is seen above the ground line, and probably still another man, lying. The latter scene finds no parallel in the further development of the action in Book XXI and seems to be a repetition of the preceding one due to carelessness or perhaps serving simply to fill up the space.

On the other hand the scene of the next frieze is quite clear. It is entitled ΙΛΙΑΔΟΣ Χ ΕΚΤΟΡΟΣ ΘΑΝΑΤΟΣ and shows Achilles dragging Hector's corpse round the city walls, on which are standing Priamos, Hecabe and probably still another woman. The inscription below runs as follows: ΠΠΙΑΜΟΣ ΕΚΤΩΡ ΑΧΙΛΛΕΥΣ ΣΥΡΩΝ ΤΟ ΣΩΜΑ. The same band on the Tabula Capitolina contains still other episodes, but there the walls with Hector's family have been omitted. The composition of the New York relief resembles most that of the Thensa Capitolina⁴ or that on the handle of a Roman lamp in the British Museum.⁵

The uppermost band bears the inscription: ΙΛΙΑΔΟΣ Υ ΕΤΤΙΑΦΙΟΣ ΑΓΩΝ. We see there the chariot race (ΑΡΜΑΤΟΔΡΟΜΙΑ) in the presence of Achilles (ΑΧΙΛΛΕΥΣ) standing to the left, next to the *meta* bearing one of the three cones which are familiar to us from the well-known mosaic of Barcelona and from other monuments.⁶ Beside the chariot race on the Tabula Capitolina is the pyre with Patroklos' body, and instead of the Roman *meta* we notice there a tree in accordance with *Il.* XXIII, 327 f., beside which is standing Achilles, or Phoinix as Mancuso presumes (p. 689). But the greatest difference consists in the perspective treatment of the whole composition on the New York tablet. In fact, in spite of the bad preservation of the relief, one sees quite distinctly that two of the four-horse chariots are racing on the lower level to the right, whereas the two others are placed on the upper level and are speeding in an opposite direction. The view in perspective has been enhanced by the diminished proportions of the horses of the chariot which is heading the race. It is hard to say anything about the second chariot as its presence can only be gathered from the little that is preserved.

The tier perspective does not present any novelty for we find it in use since the time of Polygnotos, as we also find diminished figures in the background since the classical period, as for example on the crater at

⁴ *RM*, xxi, pp. 349 ff., fig. 5, 3; Bulas, fig. 39, 3.

⁵ Walters, p. 133, no. 876; Bulas, fig. 43.

⁶ Reinach, *Rép. d. peint.*, p. 291.

Athens published by Hahlund, *Vasen um Meidias*, pl. 4, and on the yellow frieze in the House of Livia on the Palatine, where the buildings and figures in the foreground are larger than those in the background, though, perhaps, they are still too large, which error has been avoided by the painter of the House in Farnesina; yet the New York relief brings the earliest known instance of a chariot race executed in this kind of perspective. All known examples of that kind are later,⁷ as the New York relief, together with other Trojan tablets, belongs to the first century A.D. There are also similar compositions of a later date as that on the base of the column of Antoninus and Faustina or on the column of Marcus Aurelius, especially XIV and CIII (Petersen-Domaszewski, pl. 20 and 112). Furthermore, in the latter case the tier perspective is conditioned rather by the rocky landscape in which the action takes place, than by the adoption of a high viewpoint.

The last scene appears to the left of the preceding one and represents [ΙΛΙΑΔΟΣ Ω ΕΚΤΟΠΟΣ ΛΥΤΡΑ]. Only the car with the ransom (ΛΥΤΡΑ) and a small fragment of Priamos' figure (ΠΡΙΑΜΟΣ) kneeling before Achilles (ΑΧΙΛΛΕΥΣ) have been preserved. In front of the mules we notice a bent male figure, no doubt that of the driver Idaios. The composition virtually agrees with that of the Tabula Capitolina, save that it is inverted, or with the fragment of a Trojan tablet of the National Library in Paris (Jahn F).

At the very top of the New York relief we see the remains of an inscription, which on the strength of the Tabula Capitolina should be completed as follows:

[— ω — Θεοδώρηον μάθε τάξιν 'Ομήρου
σφρα δαεις τέχνην μέτρον ἔχης σο[φίας].

Unfortunately, as the beginning of the inscription is also missing on the Tabula Capitolina, it cannot be restored with certainty. On the Tabula Capitolina it is completed by Mancuso (p. 730) by Τέχνην τὴν in op-

⁷ (a) Sarcophagus from Foligno: Baumeister, III, p. 2093; Reinach, III, 45, 4; (b) sarcophagus at Palazzo Mattei: Matz-Duhn, 2833; Reinach, III, 297, 2; (c) sarcophagus in the Vatican: Amelung, II, 5, 21 b; Reinach, III, 407, 2 (only the left upper corner is original, but on the strength of the preserved parts the presence of the fourth chariot at the top is certain); (d) mosaic from Gerona in Spain: Lanciani, *Ancient Rome in the Light of Recent Discoveries*, the plate between p. 214 and 215; Reinach, 291, 1; (e) mosaic from Lyon: Cagnat-Chapot, *Man. d'arch. rom.*, ii, p. 221, fig. 169, 1; Reinach, 291, 2; (f) mosaic from Via Appia in the National Museum in Madrid: M. E. Blake in *MAAR*, xvii (1940), p. 113; Reinach, p. 292, 1; (g) mosaic from Horstow: Reinach, 292, 2; (h) mosaic from Carthage in the Musée du Bardo: *RA*, 1916, i, p. 248 (L. A. Constans); Reinach, 293, 2; (i) painting in the Vatican: B. Nogara, *Le Nozze Aldobrandine*, pl. LIII.

position to other scholars who restore Ω φίλε παι, which is erroneous as the Trojan tablets certainly did not serve for school use, if only because of the tiny characters of the inscriptions.

According to the *BMMA* l.c., the fragment of an inscription . . . γράμμα μέσον καθ . . . is visible across the back of the tablet. "The center of the back is divided into squares in which are letters in rebus form, which may be read from bottom to top or from right to left. This is also incomplete, but from other examples (Jahn A and C) it can be made to read: ['ΙΛΙ]ας 'Ομήρου Θεοδώρηος ή τέχνη."

This name is known to us from other fragments, always in adjectival form. He, and not the painter of the same name mentioned by Pliny XXXV, 146, was undoubtedly the author of those tablets, being responsible both for their disposition and execution as well as for the inscriptions,⁸ especially in view of the fact that his identification by Six⁹ with Theodoros, the author of a cycle of paintings relating to the Trojan War in the Portico of Philippus (Pliny XXXV, 144), and the identification of the latter by Brunn with Theon are not at all certain. From Diogenes Laertios II, 104, we know three other painters of the same name, yet no particulars concerning their chronology or activity are given there.

Considering the close connection existing between the New York tablet and the Tabula Capitolina, we must take it for granted that they were executed at the same period, i.e., the beginning of the Empire, perhaps the Julio-Claudian period in view of the pre-eminence given here to Aeneas and in view of their being based not on the cyclic Iliupersis, but on that of Stesichoros, who most probably was first to lead Aeneas to Italy or at least to the West. The New York tablet was surely executed in the workshop of the same Theodoros, assisted, no doubt, in his work by his companions, but in spite of its extremely close connection with the Tabula Capitolina, it does not represent a faithful copy of the former, in conformity with the manner of working of the ancient artists.

I take this opportunity to complete the list of the illustrations to the Iliad by adding the monuments which have come to light since the publication of my paper in *Eos*, xxxiv (1932/33), pp. 241 ff. under the title "La colère d'Achille," which is itself a supplement to my *Illustrations antiques de l'Iliade*.

According to the development of the action in the Iliad we must mention first¹⁰ Briseis taken from

⁸ Lippold in *RE*, s.v. *Tabula Iliaca*, 1893.

⁹ *RM*, xxvii, p. 198.

¹⁰ I disregard here the lekythos reproduced by A. Greifenhagen in *Die Antike*, xviii (1942), pp. 10 ff., fig. 1-3, as it seems doubtful that the Apollo statue thereon represented refers to *Il. I*, 48 ff.

Achilles, represented on two mosaics from Antioch-on-the-Orontes (vol. II, pl. 50, n. 70, and vol. III, pl. 50, n. 50). The composition of the latter mosaic is confined to three persons, all signed in Greek characters: Achilles sitting on a circular seat and holding a lyre extends his hand towards Briseis full of sorrow to bid her good-bye, whereas the herald Talthybios looks eagerly at the young woman. The lyre in Achilles' hand is a reminiscence of *Il. IX*, 185 ff., as it is not mentioned by the poet in this connection. The other mosaic has been badly injured, yet it obviously represents Patroklos handing Briseis over to the two heralds (K. Weitzmann, p. 246 f.). We then see here the same moment as in the painting from the Casa del Poeta Tragico (Herrmann-Bruckmann, pl. 10; Bulas, fig. 35), though the two compositions are quite different. K. Weitzmann is right when he assumes in a narrative cycle a common source of the mosaic and of the miniatures of the Ambrosian Iliad (cf. Bulas, p. 131 ff.).

A new scene from the Iliad appears on a Boeotian pithos of the seventh century B.C.¹¹ if it really represents Hecabe carrying the peplos for Athena with other Trojan women (*Il. VI*, 286 ff.).

The next in order will be the new relief from La Valletta, published by P. C. Sestieri.¹² According to the author it dates from the latter half of the first century A.D., whereas in the opinion of A. Rumpf¹³ it is to be dated in the fourth century A.D. To judge from the reproduction alone, the former date would seem to be nearer to reality. Sestieri (who does not know my *Illustrations* and limits himself to Schreiber's paper in the *Ann. d. Inst.* 1875) explains the scene as the slaying of Dolon by Odysseus, to which Rumpf gives his consent. The mere fact that Dolon is slain here by Odysseus and not by Diomedes as in the Iliad would not contradict such an interpretation, were it not that the figure presumed to be Dolon gives rise to serious doubts. On Attic vases he is always armed and he wears an animal's skin, even on the Blacas gem (Brit. Mus. 965),¹⁴ besides which he here has a boyish face. Homer says, it is true, that Dolon *εἴδος μὲν ἔην κακός*, which could account for his stature, although he always appears as a normally grown man, but one cannot explain away the boyish face which is here seen in such striking contrast to those of the two warriors. For this reason the interpreta-

¹¹ Hampe, *Frühe griech. Sagenbilder in Böoten*, pl. 37, pp. 69 f.

¹² *RendLinc*, vi, 13 (1937), pp. 21 ff.

¹³ *Scritti in onore di B. Nogara*, pp. 406 ff.

¹⁴ The relative monuments are only seven in number, or eight if we include the crater from Syracuse *MonAnt*, xxviii (1922) p. 538, fig. 4, p. 535, fig. 5, and pl. 11; cf. *Eos loc. cit.* p. 249. There is no formal connection between them so one cannot possibly trace them back to a common prototype as Sestieri does.

tion of the scene as the slaying of Dolon is unconvincing and I venture, instead, to set forth the supposition that the presumed Dolon is Astyanax. According to the literary tradition, it is true, Astyanax is hurled from a city tower by Neoptolemos or perhaps also by Odysseus, but on Greek vases we see him slain by Neoptolemos,¹⁵ as for instance, on the famous cup of the Painter of Brygos with the Capture of Troy.¹⁶ There is a contradiction between the story as told by Homer and the aforesaid cup, because while in the Iliad Astyanax is still a child carried on his mother's arms, here he is shown, on both sides of the cup, as a big boy, quite the same as on our relief. The only argument against my interpretation could be seen in the gesture of the man to the left, but either we have to do here with a hitherto unknown version of the slaying of Astyanax by Odysseus, or, perhaps, Odysseus is only threatening him with his sword to force him to the place of execution.

We are also faced with serious difficulties in the case of the paintings of the Domus Transitoria under the Palace of Domitian on the Palatine, which are usually explained as illustrations to the Trojan cycle. Though they were discovered by Giacomo Boni some thirty years ago they have not been published until now and are only known through fragmentary reproductions.¹⁷ On the whole, five pictures have been preserved, of which I omit three as they are either too damaged or too little characteristic to be connected with some definite episode of the Trojan cycle. The two remaining pictures, instead, can be tentatively referred to the Iliad and the Aeneid respectively. The scene reproduced on pl. III of the publication in *Vie d'Italia* (in the middle) most probably represents Odysseus in his characteristic dress who, having set one foot on an elevation, is addressing a seated bearded man on whose right side we notice two further men: one standing, the other sitting on a shield covered with a cloak. The four men are all armed with swords hanging on crossbelts and some of them also with spears. On the ground beside the man seated in the middle there lies a pair of greaves; a shield is propped up at his right. A helmeted warrior appears in the background, to the right of Odysseus. At first glance the disposition of the figures, and particularly the speech of Odysseus, recalls the embassy to Achilles (*Il. IX*, 225 ff.), yet the seated bearded man cannot be Achilles: he must rather be identified as Agamemnon and the whole interpreted as a council of the Achaean chiefs. In that case the scene should with most probability be taken to derive from *Il. IX*, 669 ff., where Odysseus relates to Aga-

¹⁵ Overbeck, *Gal.*, pp. 621 ff.

¹⁶ Pfuhl, III, fig. 420 and 419.

¹⁷ *Vie d'Italia e del mondo*, 1934, pp. 995 f.

memnon the results of his embassy to Achilles. More than in the subject itself, the painter was interested in the figure motives taken from sculpture. The same is true, and to a still higher degree, of the other painting reproduced in part on the same plate to the left and in part on the cover of number 8 of *Vie d'Italia*. The center of the composition is taken up by a naked warrior leaning on his spear, who is obviously wounded in his right thigh, for it is dressed with a bandage. He is accompanied by a youth who is pointing with his right hand to his companion's wound to call the attention of an elderly man sitting on the left with a shield leaning against his chair. An old man holding a staff and having the appearance of a herald seems to be communicating the same news. The composition is closed on the left side by a standing youth, turned to the right and gazing eagerly at the scene, and on the right by two young men, one of whom is sitting on a shield, the other standing with his right foot set upon an elevation, both attentively observing the scene. The wounded man is probably Aeneas, and the composition is reminiscent of *Aen.* XII, 396–400: *Stabat acerba fremens, ingentem nixus in hastam / Aeneas, magno iuvenum et maerentis Iuli / Concursu, lacrimis inmobilis.* The man seated to the left is probably Iapis who is dressing Aeneas' wound on the well-known Pompeian fresco.¹⁸ Consequently the scene can be assumed to represent the moment when Aeneas returns wounded to the camp with his companions, in search of medical assistance. The visible want of dramatic tension has been caused by the fact that the main interest of the painter lay, not in the subject, but in the statuary motives which he transposed from sculpture to his painting. But this question is beyond the scope of the present study: the Palatine paintings, moreover, are shortly to be published by G. Becatti.

A new illustration of the embassy to Achilles appears on a Caeretan hydria in the Louvre published by E. Pottier.¹⁹ In this rendering we see the dispatch of the envoys. The standing figures from left to right are: the herald Odios, Ajax, a young servant, Nestor, Phoinix (?), a second young servant, and yet another man of whom only the feet have remained, perhaps Odysseus. Here, then, we are dealing with a purely paratactic composition of archaic art, but the scene itself corresponds to *Il.* IX, 162–172, where Nestor designates the members of the embassy. Some reminiscences of the embassy are also visible on a vase from Olynthus representing the Nereids with Achilles' weapons (see below). Let us also mention the "Homeric" bowl recently found at Corinth (*AJA*, 1948, p. 527) represent-

ing "the grief-stricken Achilles standing before an elaborate trophy."

Patroclus' death by Hector's hand is perhaps represented on an archaic metope from the recent excavations at Foce del Sele (Capaccio),²⁰ and the bearing of his body most probably appears on an Etruscan urn in the Museo Archeologico in Florence,²¹ which I omitted in my *Illustrations*. The chariot that we see here is not mentioned in the poem, yet it is also shown on the Tabula Capitolina in the same scene, and the presence of Odysseus on the urn seems to warrant this interpretation. The urn belonged once to Michelangelo Buonarroti and according to the tradition his *Pietà* was inspired by the group of Patroclus' bearers.²²

Another similar group, the body of Sarpedon being carried to his fatherland by Hypnos and Thanatos (*Il.* XVI, 681 ff.), is shown on a South Italian crater in New York,²³ but the scene goes back to Aeschylus' tragedy *Kâpès ἡ Εὐρώπη*. The mourning for Patroclus in Achilles' tent appears most probably on the fragments of the red-figure crater in Vienna,²⁴ recently published by H. Kenner.²⁵ We see here the fragment of a head reclining on a kline and, nearby, the feet of a man, so that the scene virtually corresponds to that on the Boston lekythos.²⁶ On the Vienna crater the composition has been enlarged by a woman's figure in the attitude of a mourner standing at Patroclus' head and followed by Talthybius. As other fragments belonging to the same zone represent the remains of a car with two mules attached, as well as those of two draped figures, and in the upper zone appear some Nereids with Achilles' weapons riding on dolphins, Kenner most plausibly presumes that the Vienna crater should be referred to Aeschylus' trilogy *Μυρμιδόνες—Νηρητίδες—Φρίγες ἡ Ἐκτόρος λύτρα*. In this case Talthybius would be one of the two heralds in the *Μυρμιδόνες* sent to Achilles by the Greeks to appeal for his intervention. But if we accept Kenner's opinion that in the *Νηρητίδες* Thetis and her sisters were shown while carrying the new weapons and approaching Achilles' tent, then we cannot refer to the

²⁰ *AA*, 1941, 644.

²¹ Brunn, I, pl. LXVII, 2; *RivIstArch*, IV (1932/3), pl. II, 2, facing p. 62 (Doro Levi).

²² Let us also mention the ring in the Benaki Museum (*BCH*, LXII, 1938, pl. XLVIII, 4, p. 448) with Menelaos carrying Patroclus' body.

²³ *BMMA*, XI (1916), p. 257, fig. 6; *RM*, 47 (1932), pp. 138 ff., fig. 5 (Messerschmidt).

²⁴ *WV*, 1890/91, pl. 9; Bulas, *Eos*, 1932/3, p. 247.

²⁵ *WJ (JOAI)*, 33 (1941), pp. 1 ff.

²⁶ *BMMA*, xxvii (1932), pp. 103 ff.; Bulas, *Eos*, loc. cit., p. 243.

¹⁸ Reinach, 176, 1; *JdI*, 1915, p. 159.

¹⁹ *MonPiot*, xxxiii (1933), pp. 67 ff., pl. VIII.

same tragedy the scene on the reverse of the above-mentioned New York crater which represents Thetis in Hephaestus' palace.²⁷ On the other hand, it is not out of the question that the recently discovered statue of a seated goddess in the Museo Nazionale in Rome²⁸ actually represents Thetis observing the new shield of Achilles as on some frescoes from Pompeii,²⁹ though she may be as well the Tyche of some city. The same subject appears on a fragment in the Museo Comunale of Catania,³⁰ being the remnant of a copy of the well-known relief in the Louvre;³¹ it is only the young satyr chiseling the greaves that has been preserved here. It is hard to decide whether "il piede sinistro, calzato di sandalo" actually belongs to Thetis as Libertini supposes. The reproduction, it is true, shows a human foot, but as Thetis is not present on the Louvre relief, is that not a foot of the chair on which Hephaestus is sitting? Anyway, the position of the foot does not contradict such a conjecture. Let us finally mention the scene on the fragments in Oxford 1911. 620,³² although it only partially agrees with the poem. In fact, besides Hephaestus, who is giving the finishing touch to the helmet for Achilles, and Thetis who is holding the spear and the shield, Athena also appears, armed as usual and holding out a crest. The same painter produced pelike 50441 in the Museo di Villa Giulia representing the same subject.³³

Some newly published monuments represent Thetis and her sisters carrying the single pieces of Achilles' weapons across the sea. It is the fragment of a vase from Olynthus of the school of Meidias published by D. M. Robinson³⁴ that is most interesting with regard to this. Thetis and her sisters are riding on dolphins and sea monsters in the presence of Poseidon. It may be that Achilles also appears, if he is actually the seated young man on the reverse. The old man sitting behind him is, then, Phoinix, and above them stands Odysseus or Diomedes. We see there also two Erotes who make their appearance in this scene for the first time, it seems. On this occasion D. M. Robinson completes (p. 114, n. 42) the list of Heydemann as well as mine (*op. cit.*, pp. 56 f.) of similar representations.³⁵

²⁷ BMMA, xi (1916), l.c., fig. 7; RM, xlvi (1932), pp. 144 ff., fig. 6.

²⁸ AA, 1941, 491 f.; Aurigemma, *Le Terme di Diocleziano e il Museo Nazionale Romano*, 1946, p. 69, no. 178, pl. XXXV.

²⁹ Bulas, *Illustrations*, pp. 86 ff.

³⁰ RM, li (1937), pp. 67 ff., fig. 1 (G. Libertini).

³¹ Ibid., p. 71, fig. 2; Reinach, *Rép. stat.*, i, p. 71, 2.

³² CV, pl. 50, 8 and pl. 65, 31; Beazley, *ARFVP*, p. 186, 13 (the Tyszkiewicz Painter).

³³ Beazley, p. 187, 39.

³⁴ *Excav. at Olynthus*, v (1933), pp. 109 ff., pl. 78 f.

³⁵ For further additions see Jacobsthal, *Mel. Rel.*, pp. 182 ff. and H. Kenner, *op. cit.*, p. 4, n. 6. The terracotta from Ibiza (Jacobsthal, p. 183), now in the National Museum in

The same author reproduces a new mosaic from Olynthus³⁶ dating in his opinion from the last quarter of the fifth century B.C., where we see Achilles sitting on a rock, with Thetis before him, and two Nereids behind on hippocamps, with weapons. He also reproduces a bronze seal of Larissa Kremaste³⁷ of the fourth century B.C. with Thetis on a hippocamp carrying the shield and the helmet, as she does on contemporary coins of the same town. Still one monument can be added, viz. a Neo-Attic marble basin found in Rome near Lungotevere in Sassia³⁸ representing Nereids on sea centaurs carrying Achilles' armor.

There have also appeared some new monuments showing either the handing over of the weapons to Achilles or his arming. We can disregard here the bowl from Rhodes attributed to Sophilos,³⁹ as it has only a half-epical character,⁴⁰ whereas the presence of a second woman, who is undoubtedly a Nereid, on a pelike in the Museo di Spina⁴¹ is proof that we have here an illustration of the Iliad. To the same subject may be referred the scene on the rhyton 95.38 in Boston,⁴² where we see a seated youth and a standing woman with armor, and, perhaps, two fragments at Magdeburg⁴³ by the Peleus Painter, photographs of which I owe to Prof. Jacobsthal. One of the fragments (frg. I, pl. xix, A-B) represents a youth holding a helmet and a spear, in front of him a boy, and behind him part of the figure of a woman who has put her hand on the youth's shoulder; on the other (frag. II) we see a woman holding out a phiale (pl. xx, B). The arming of Achilles appears on two further vases of the Museo di Spina;⁴⁴ on one of them Achilles is putting on his greaves in the presence of his mother and of a Nereid holding the shield and the spear, on the other we see Achilles accompanied by Thetis and two warriors.

Passing on to further books of the Iliad, we have to mention the attempt of Heribert Seitz⁴⁵ to interpret

Madrid, is also reproduced in AA, 1941, p. 213, fig. 15. The interior of the red-figure cup 96 in Vienna shows a Nereid with armor on a sea horse: Beazley, *ARFVP*, p. 886, 33. See also Rumpf, *Die Meerwesen auf den ant. Sarkophagrel.* (*Ant. Sarkophagrel.*, v, 1, 1939, nos. 1, 119 and 120).

³⁶ AJA, 1934, pp. 508 ff.

³⁷ Ibid., pp. 219 ff.

³⁸ NdSc, 1935, pl. v-vii, pp. 69 ff. (P. Romanelli).

³⁹ AM, lxii (1937), pp. 119 and 133, no. 28, pl. 46 (S. Papaspypidi-Karousou).

⁴⁰ Cf. Bulas, *op. cit.*, p. 44.

⁴¹ Aurigemma, *Il R. Museo di Spina*, 1935, pl. XLV: Beazley, *ARFVP*, p. 364, 42 (the Pan Painter).

⁴² Richter and Milne, fig. 179; Beazley, p. 452, 5 (manner of the Sotades Painter).

⁴³ Beazley, p. 686, 2.

⁴⁴ Aurigemma, *op. cit.*, p. 92.

⁴⁵ Corolla archaeol. Principi G. Adolfo dedicata, 1932, pp. 246 ff.

the youth of Subiaco as Lykaon imploring Achilles for mercy, according to *Il.* XXI, 64 ff.

The dragging of Hector's body is represented on a Roman relief in the National Museum of Budapest,⁴⁶ which through a strange oversight I omitted in my *Illustrations*. This monument is the only instance where the horses of Achilles are not running at full gallop but are standing quietly, while the hero turns back with a menacing gesture towards two women, obviously Hecabe and Andromache, one of whom has raised her hands in sign of despair. As in many scenes with the same subject the background is here formed by the city walls. The only other instance of Hector's family's standing, not on the city walls, but in front of them, is to be seen on a lost sarcophagus reproduced by Robert, pl. 21, 45.⁴⁷ The terracotta, instead, published by Godfrey G. Cook in *JHS*, 1941, p. 39, fig. 2, has nothing to do with the dragging of Hector's body. It is in fact a faithful copy of the corresponding scene on the Ara Casali in the Vatican Museum,⁴⁸ and consequently, I dare say, a forgery just as its twin brother reproduced in *AZ*, 1864, pl. 181, 2, pp. 124 ff., and still a third copy, once in the Museum of Cluny (*loc. cit.*, n. 8). The two latter reliefs have in common the stamp L·SER wrongly copied after a fragment in the Louvre,⁴⁹ instead of L·S·ER. On the first relief these letters have been suppressed, though the impression of the stamp itself has remained, nor do we see the heads in the city gate, which do not appear either on the Ara Casali.

The corresponding scene on the Ara Casali recalls the fragment of a Roman white-and-black mosaic in Aula XI of the Museo Nazionale in Rome (no. 125.537, from Ceccano), where we see a naked man seeming to fall backwards from the chariot (pl. xx, b). His feet are not bound to the chariot, as in all the scenes with the dragging of Hector's body, but are shown inside the box just as on the aforesaid Ara Casali. Thus I have serious doubts whether the mosaic can be referred to the Iliad. As there also stands in the chariot a man armed with a spear and a shield, it is possible that we witness here an accident in a chariot race where the charioteer was accompanied by an apobates. This kind of race survived into Roman times and even into the Late Empire, as seems to be the case from the words *pedibus ad quadrigam* in *CIL*, vi,

10047.⁵⁰ This interpretation is confirmed by the presence, on the same mosaic, of the upper part of another man's body holding a spear (only the point has been preserved) placed upside down, which clearly indicates that the mosaic represented a race comprising a greater number of chariots. I cannot, however, explain away the nakedness of the falling man, who must in such case be the charioteer; so I do not exclude the possibility that after all the artist meant the dragging of Hector's body represented in the form of a Roman chariot race of Greek origin.

To the dramatic finale of the poem refer most probably two fragments of a vase by the Kleophrades Painter recently found in the Kerameikos.⁵¹ One of them shows the bearded head of a dead man lying on his back near a kline, of which only a foot has remained; behind the kline one sees the remains of the himation of a standing person. As the other fragment contains the head of a seemingly reclining youth looking back, it is fairly certain that the whole composition represented the ransom of Hector's body by Priamos and virtually agreed with that on the cotyle by the Brygos Painter in Vienna⁵² and on other vases. The ransoming of Hector's body appears also on a Roman terracotta lamp of the middle of the third century A.D., recently found on the Athenian Agora.⁵³ The scene, limited to Priamos kissing the hand of Achilles and to two standing persons, a sorrowing woman and a male figure, most probably Hermes, is an extract from a greater composition known from sarcophagi of the third century A.D. (Bulas, p. 100). It especially agrees with the fragment from Adalia (Robert, pl. xxiv, 54). The forepart of a horse (or mule) seen on the lamp to the left does not belong, of course, to "Achilles' team and chariot," but to Priamos' cart with the ransom.

Finally the mourning for Hector is represented on another archaic metope from Foce del Sele.⁵⁴ Here two women, of whom one carries a boy on her shoulder, obviously Hecabe and Andromache with Astyanax, are tearing their hair as a sign of grief. This is a novelty among the scenes referring to the Iliad, although the subject itself is known in archaic art, and the epic character of the scene seems to be assured as the metope belongs to a series of illustrations to the Trojan cycle.

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⁴⁶ *Arch.-epigr. Mitt.* xiii (1890), p. 69, fig. 21; Reinach, II, 123, 1.

⁴⁷ Bulas, fig. 46.

⁴⁸ *Mél. d'arch. et d'hist.*, 1908, pl. iv, 2; Bulas, p. 93, n. 2.

⁴⁹ v. Rohden-Winnefeld, *Arch. röm. Tonrel.*, iv, 1, pp. 138 ff., 256.

⁵⁰ Friedländer, *Sittengesch. Roms*, iv, 1921, p. 183.

⁵¹ AA, 1937, 185, and 1938, 612; Beazley, *ARFVP*, p. 124, 38.

⁵² FR, pl. 84; Bulas, fig. 17.

⁵³ AJA, 1948, p. 526, pl. LV B.

⁵⁴ AA, 1941, 644 f.

A FRAGMENT OF EUPHRONIOS IN
THE MUSEI CIVICI IN MILAN.*

GIANGUIDO BELLONI, Milan

PLATE XX, C

THE Museo di Archeologia of the Comune of Milan owns a small fragment of a red-figure Attic vase with a head of Herakles. So far as I know, this has never been studied, and since I have been unable to find it in the catalogue of the Museum, it would appear that its importance has not been justly appreciated.¹

As the photograph shows, the head is incomplete (pl. xx, c).² However, the color is so well preserved and the drawing so clear that it is possible to pass adequate judgement on the technical characteristics and the artistic qualities of the work, which at once suggested to me the name of the painter and potter Euphronios. It is, in fact, in the artistic quality and in the clear presence of the artist's hand that the importance of the present fragment consists. The subject-matter, in the work of Euphronios, is not new; there are scenes of Herakles on his vases in Arezzo, Munich, and Paris.³ The fragment certainly belonged to a krater, as is shown by the fact that the back of it is painted. The convexity and the dimensions show that the fragment formed a part of the outer wall of the vase and not of the interior medallion of a bowl.

Herakles is dressed in the lion's skin, the teeth of which can be seen next to his beard. The triangular area on the lower edge of the sherd is a portion of the hero's bare chest. The large head is full of that vigorous and "ethical" beauty which can be recognized easily in a number of faces painted by Euphronios. The expression shows a tranquil and powerful bravery, with-

out any sign of cruel or unhappy aggressiveness. We can realize this more readily by comparing the head of the present fragment with that on the krater in Paris which shows the combat of Herakles and Antaios. On that vase, the struggle of the bodies in close combat has marked Herakles' face with grim violence, while Antaios' face betrays his exhausted strength.

The profile is drawn with a brush stroke, as are the internal lines of the figure.⁴ The beard is painted with curls in relief, as on the Arezzo krater of the Amazonomachy, with a technique already found among the vase-painters earlier than Euphronios, for example Andokides, which enjoyed notable success in Greek ceramics. The large eyelid, whose eyelashes are accurately and finely drawn, surmounts the pupil, which is entirely black and lacks the iris which can be seen, for example, on the Paris krater. The solid eye is frequently to be found elsewhere in the painting of Euphronios. In fact, as can be seen from the Arezzo vase, Euphronios painted eyes either in monochrome or with the iris, indifferently.

The disposition of the lion's skin can be explained easily by supposing that Herakles has his arm stretched out before him, as on the Arezzo vase which has already been mentioned, on which Herakles is shown striking the Amazons. Whether the posture on our fragment was the same, cannot be determined.

The head of Herakles on the Arezzo krater provides the closest parallel to that on the present fragment. This is fortunate because the identity of the subject-matter and the close typological similarity of the two figures offer rich possibilities for comparison. We can see the same employment of certain technical expedients, such as the beard shown with curls in relief, which are different from those used on the krater of Herakles and Antaios, where the beard is smooth and has a cut which is more regular, and, so to speak, more geometric than that of the Milan Herakles. There is no necessity to insist upon other coincidences which are more important, but at the same time more evident, such as the overall configuration of the face and the similar psychological expression. This configuration appears plainly on the face of Herakles on the Paris vase, and on the face of the feasting "Smikra" on the Leningrad psykter.⁵

The vase belongs to the series of vases painted by Euphronios which are signed with Εγραφοεν and not

* Translated by G. Downey.

¹ The provenience is not known. The fragment may have belonged to the collection of Emilio Seletti of Milan, who presented almost all the objects of his collection to the Musei Civici of Milan toward the end of the 1900's. This possibility was suggested to me by Professor Carlo Albizzati, who informed me that about 1932 he was asked by Professor Beazley to determine whether the collection contained two fragments of Attic vases. Professor Albizzati tells me that it was at that time not possible for him to obtain the information. I found the fragment myself among the discards. I intend to publish the other fragment, also found among the discards, which is black-figured, in the "mannerist" style.

² The distance between the left angle of the eye and the point of the beard is 0.07 m. The thickness varies from 0.07 to 0.08 m.

³ Arezzo vase: J. D. Beazley, *Attische Vasenmaler des Rotfigurigen Stils* (1925), p. 59, no. 4; Furtwängler-Reichhold, II, p. 1, pl. 61-62. Munich vase: Beazley, p. 61, no. 11; FR, I, p. 98, pl. 22. Paris vase: Beazley, p. 59, no. 2; FR, II, p. 172, pl. 92-93.

⁴ This is the favorite procedure used in Attic vase-painting to procure sharp distinction between the red of the figure and the black of the background. The distinction between the beard, which is black, and the background, which is varnished black, is obtained by the technical expedient of drawing the beard itself in profile, leaving a very thin red line between it and the background.

⁵ Beazley, p. 60, no. 10; FR, I, p. 15, pl. 63.

among those of his workshop, painted by others and signed with έποιεσεν.⁶

The Arezzo krater, which bears no signature, is attributed to the master on the basis of absolutely convincing stylistic considerations. On the other hand, the signature appears on the Munich cup with the scene of Herakles and Geryon, where the hero's face is quite similar to that of our fragment, though treated in a rather mannerist fashion.

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SHERDS FROM A WHITE-GROUND KRATER

CEDRIC BOULTER, University of Cincinnati
PLATE XXI

THE two white-ground sherds described below are in the collection of Professor and Mrs. W. T. Semple of Cincinnati.¹ They were acquired in New York in 1941 from Dr. Jacob Hirsch. The complete scene of which they once formed part was possibly the meeting of Paris and Helen.

The smaller sherd (pl. xxii, a) is 7.4 cms. wide and 6.7 cms. high. It bears the head and upper part of the body of Aphrodite. Her head is in profile to the left, and her head and body are slightly inclined in that direction. Hovering in the field to the left is an Eros; his legs are preserved and also the ends of his wings. Below the Eros are the fingers of Aphrodite, lightly supporting Eros, or letting him go. Parts of three fingers are preserved; the rest have disappeared in the flake. On the extreme left is a loop, possibly depending from a garland held by Eros. On the extreme right are lines that belong to Aphrodite's left forearm. The elbow is lost in the large flake at this corner of the sherd. The place where the arm emerges from the himation is marked by a slight bunching of the cloth. The forearm was uplifted, perhaps holding up the drapery or gesturing towards the figure next right. Above Aphrodite's head are the remains of two rows of letters: — — φρ — — above, and — — ερο — — beneath, — Αφροδίτη and Ερως.

Black glaze, sometimes almost pure, sometimes in dilution, is used for Aphrodite's face and hair and forearm and fingers, for the folds of her chiton (golden-brown), and for the body and wings of Eros. Aphrodite's sakkos and himation are purple. Her stephane and the lettering are golden buff. On the stephane there are three triangles: each is composed of three

⁶ Beazley, p. 59, 163, 170. E. Pfuhl, *Malerei und Zeichnung der Griechen*, I, p. 447.

¹ I am grateful to Professor and Mrs. Semple for permission to publish these sherds.

white dots, and bears a purple dot at its center.

The larger sherd (pl. xxii, b) is 12.1 cms. wide and 12.6 cms. high. It preserves almost entire the figure of a youth wearing chlamys and petasos. He stands in front view, his head in profile to the left, and holds in his right hand a pair of javelins. On the extreme left is part of the garment of another figure, and on the right a bit of floral ornament. The javelins and floral ornament are in undiluted black glaze. Golden buff is used for the petasos and chlamys. The border of the chlamys is purple, as is also the garment of the figure on the

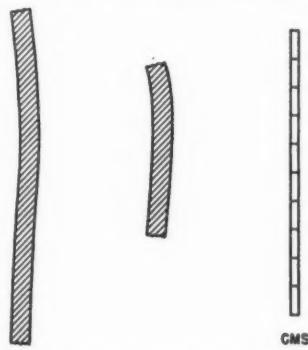


Fig. 1. PROFILES OF SHERDS, PL. XXI.

left. A purple cord secures petasos to chlamys. A purple dot on the petasos marks the point of attachment of the cord.

The thickness of the fabric is 0.7 cms. The interior of the vase was painted in solid color. The profiles of the two sherds are reproduced in Figure 1, the exterior surface being that on the left. It seems clear that the vase was a calyx-krater.²

When I began to study these sherds I sent photographs of them to Professor J. D. (now Sir John) Beazley. He already knew them, and knew also a third fragment, in a private collection, which he thought came from the same vase, and of which he sent me a tracing.³ He had thought of the Methyse Painter in

² There is a white-ground calyx-krater in the Vatican Museum; Beazley, *Attic Red-Figure Vase-Painters*, p. 671; Furtwängler and Reichhold, *Griechische Vasenmalerei*, pl. 169 and iii, p. 302; also F. Brommer, *Satyrspiele: Bilder griechischer Vasen*, Fig. 47. A fragment of another, by the Villa Giulia Painter, is in Lausanne; Beazley, *op. cit.*, p. 401, no. 11. Three fragments of a much earlier one are in Taranto (satyrs and maenads, late sixth century). Professor Beazley drew my attention to these last two examples, and also to what is possibly a third: a fragment of a calyx-krater in Oxford preserves part of the pattern above the picture, black ivy on a white ground.

³ I owe thanks to Professor Beazley not only for this kindness but also for making clear to me some details of the drawing that I had misunderstood.

connection with the three fragments, but was not prepared to attribute the work to him.

The third fragment is about 7 cms. wide and 5 cms. high. It bears the head and upper part of the body of a female figure, in profile to the right. Her head is bowed. In the field above is inscribed *hελεν* — — . She is attired much like Aphrodite, but her himation is golden buff and her headband is purple.

Professor Beazley had assumed that all three sherds came from the same side of the vase, and had taken the subject of the picture to be the meeting of Paris and Helen. We may assume further that all the characters in the original scene are here represented: (from left to right) Helen, Eros, Aphrodite, Paris and Aeneas. All that remains of Paris is part of his himation (see again pl. XXI, n). In another context these remains might suggest a female figure, but in the skyphos by Makron that treats this subject there is a similar distinction in dress between Paris and Aeneas.⁴ And it is understandable that Paris's dress should be ornate. He was a king's son and an easterner, and the ancient literature ascribes elegance both to him and to his garments.⁵

The scene, then, may be tentatively reconstructed as follows: Aphrodite stands between Helen and Paris. She looks towards Helen and gestures towards Paris. She is in the act of introducing the two. With her right hand she wafts Eros towards Helen: he will crown her with a chaplet. Aeneas stands quietly behind Paris, at the extreme right of the picture. Helen's head is bowed in submission to Aphrodite's will.⁶ It is possible that Aphrodite is seated: the inclination of her body would suggest as much.

The drawing is excellent. It is not extravagant to place this Aphrodite beside the Aphrodite on the cup in London by the Pistoxenos Painter:⁷ they are not far apart in time, and there is a loveliness about them both. The Semple Aphrodite seems to me the earlier. The rendering of the tuft of hair that emerges from the sakkos is a link with an older fashion, to be found, for example, in the works of Euthymides and the Kleophrades Painter. And the goddess is not here absorbed in reverie, but looks with active interest at the world outside.

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⁴ Boston, Museum of Fine Arts, 13.186; Beazley, *op. cit.*, p. 301; Pfuhl, *Malerei und Zeichnung der Griechen*, Fig. 435.

⁵ Cf. Euripides, *I. A.*, 73-74.

⁶ Cf. Furtwängler's remarks on the Helen from the same scene on Boston 13.186; *op. cit.*, ii, p. 126.

⁷ British Museum, D 2; Beazley, *op. cit.*, p. 575; Pfuhl, *op. cit.*, Fig. 498.

A HOARD OF GREEK JEWELRY

HOWARD COMFORT, Haverford College

PLATES XXII, XXIII-A

THE hoard of jewelry here described, consisting of 309 leaves of gold foil, two medallions, two "hairpins," and three finger rings, came temporarily into my hands in 1931. Since its return to its owner I have heard nothing further about it.

According to the owner, the hoard was found near Patras, buried in the remains of a silver vase. This vase was sold as old silver in Athens, and has passed from further consideration. The rest was surreptitiously brought to America for sale. The Hellenic phase of the saga is undocumented, while the American is an unedifying parade of litigation, pawn and misrepresentation, — not the sort of history that inspires confidence. Furthermore, objects of gold foil are exceptionally easy to forge. However, after detailed examination I came to the conclusion that with all due allowances for fraud the objects in the hoard show no evidences of modern manufacture and numerous evidences of being what they pretend to be.¹ If I have interpreted the internal evidence correctly, there is no defensible reason for discarding the story of the discovery at Patras except that it seems too good to be true; in the ensuing account it is assumed that the whole hoard is ancient, as represented.

The most spectacular category of the group is the 309 gold leaves and fragments, which divide themselves into seven types. Some of these fragments have been quantitatively analyzed by Dr. E. W. Flosdorf and Mr. A. E. Palmer as containing 80.25% gold, 12.45% silver, 0.001% copper, and 7.3% impurities. Silver alloy of the quality of the bezel of the silver ring analyzed below, when mixed with native gold, would produce the gold alloy of the leaves, — which is at least an interesting and suggestive coincidence.

Type I consists of forty-eight leaves of wild olive (fig. 1, A),² one of which bears an inscription (fig. 1, B). Most of these leaves are 5.90-6.00 cm. long and weigh ca. 0.337 gram.³ They were made by impressing gold leaf upon a wire framework representing the edges and midrib, and then cutting around the edges, leaving at

¹ Perhaps the most questionable item is the "lion ring" (fig. 3, E); the two medallions might also be questioned.

² Mr. L. N. Taylor has executed the renderings *amicitiae gratia* (all natural size), except fig. 1, B. I am also indebted to Prof. Donald G. Baker for suggestions of numismatic parallels for the medallions and lion ring.

³ All leaves except the fragments were mounted on velvet backgrounds in such a way that detachment for weighing was difficult. Each type is therefore represented by the weight of one selected leaf from which the weight of each group is estimated.



A. SPECIMEN LEAF OF TYPE I. ACTUAL SIZE.



B. INSCRIBED LEAF OF TYPE I. ACTUAL SIZE.



E. SPECIMEN LEAF OF TYPE IV. ACTUAL SIZE.

C. SPECIMEN PAIR OF LEAVES AND STEMS
OF TYPE II. ACTUAL SIZE.D. SPECIMEN PAIR OF LEAVES AND
STEMS OF TYPE III. ACTUAL SIZE.

FIG. 1

one end a tab which was folded over itself to become the stem.

The inscribed leaf (fig. 1, B) is longer than the others of the type (6.60 cm.) and is more than twice as heavy (0.757 gram). Instead of being trimmed around the embossed edges, it has been folded under so that the edges have an added rigidity, and it has received an alloy, probably silver, which has made it appreciably whiter. On its obverse is incised ANOPΩ ΤΤΙΔΑΞ, a name otherwise unknown. A short diagonal stroke shows that the artisan first intended to use smaller letters on the upper line only. The letter-forms date this type of leaves to the second or first century B.C., and this date probably applies to the hoard as whole.

This group of leaves is closely paralleled by some of those from Tomb 8 at Ayios Ermoyenis at Kourion, Cyprus, published by George H. McFadden in this JOURNAL, 1 (1946), as being associated with burials of 250–200 B.C. and A.D. 0–50 (pp. 464 f. and pls. XL

and XLVI). Twenty-two rather crude "small gold myrtle leaves which have been used as a wreath or diadem" were also found by the Swedish Cyprus Expedition in a Hellenistic burial, Tomb 9 at Marion (II, p. 208 and pl. XXXVIII 4, 12), and gilded bronze myrtle leaves still in diadem form were found in the contemporary Tomb 10 at Amathus.

Of Type II there are twenty-six complete and fragmentary oak leaves (fig. 1, C). Some of them are still attached to stems of light twisted wire rectangular in section, but the paired arrangement seems to be modern. The weight of one pair, including stems, is 0.28 gram; a selected single leaf, without stem, weighs 0.11 gram. These twenty-six leaves are insufficient for a complete wreath and were probably combined with others to which the same observation applies.⁴

Type III consists of twenty-two gold foil oak leaves

⁴ Compare British Museum Catalogue of Jewellery, No. 1627, p. 174, a "wreath of gold laurel and ivy leaves."

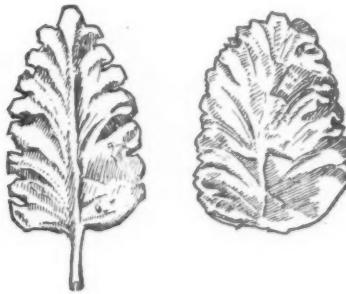
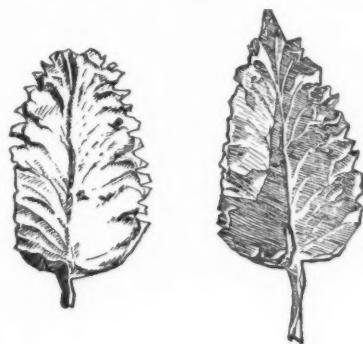
with stems (fig. 1, D; pl. xxii), mostly in perfect condition. The weight of one pair, including stems, is 0.48–0.485 gram, making an estimated total weight of 5.280–5.385 grams for this group. The stems of this type, unlike those of Type II, are flat, untwisted ribbons; like those of Type II they were hooked through a slit toward the base of the leaf. A tab of foil was then folded around the stem as shown in one of the leaves illustrated.

Type IV is represented by sixty-five flimsy stylized oak leaves (fig. 1, E), weighing ca. 0.179 gram apiece. Variations and identities of outline within the group are best explained by supposing that several super-

posed sheets were cut free-hand. The veins were drawn free-hand instead of being stamped. There is no apparent manner of attachment to a central stalk. The gold analyzed was mostly from specimens of this type, which gives an estimated total weight of 11.635 grams^b and an approximate market value for the metal of between 35½ and 44 Attic drachmas.

Type V consists of seventy-five gold leaves of oak

^b 2.665 Attic drachmas in weight. Compare Homolle, *BCH* vi (1882), p. 120, discussing the crowns of a great Delian inventory, "Le poids varie de 200 drachmes environ à 2 oboles."



A. SPECIMEN LEAVES OF TYPE V. ACTUAL SIZE.



B. SPECIMEN LEAVES OF TYPE VI.
ACTUAL SIZE.



C. SPECIMEN LEAF OF TYPE VII.
ACTUAL SIZE.

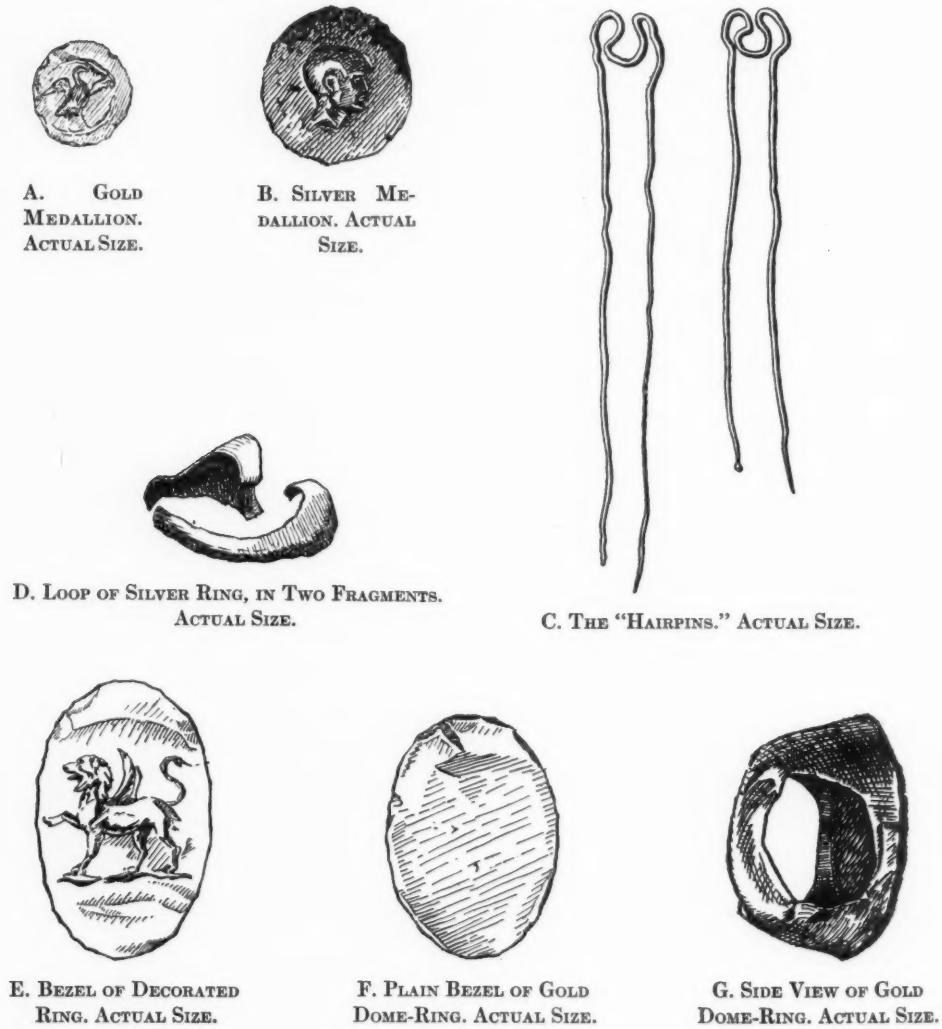


FIG. 3

with tubular stems (fig. 2, A). Dimensions and weights of individual leaves vary considerably because of the lack of exact uniformity of pattern and because of admixture of an alloy in several cases.⁶ In general the veins are more finely worked on the pure gold than on the alloyed specimens. The cutting of the outline was performed quite haphazardly, so that the extreme variations give the appearance of belonging to different types. The preserved stems are tubes of the same

piece as the leaves, fitting around some attachment now missing.

Type VI consists of fifty-six well preserved small myrtle leaves (fig. 2, B), rounded or squared off at the base with the greatest width at about the center of the leaf. A representative specimen weighs 0.089 gram. There is no embossed outline of the leaves or any secondary veining.⁷ Through a small slit near the

⁶ Length varies from 4.40 cm. to 5.10 cm.; weight varies from 0.345 gram to 0.488 gram.

⁷ One leaf (fig. 2, B, center), like the inscribed leaf of Type I, is heavier and more durable than the rest, being alloyed with some other metal, but no trace of any inscription ap-

base was run a thin strip that has occasionally left its impress on the leaves where it was bent back and clamped. The strips were removed with care, since with trifling exceptions the bases of the leaves are undamaged.

Type VII is represented by eighteen large leaves of laurel (fig. 2, C). Variation in length is caused by the fact that these leaves were cut free-hand from a sheet of gold foil.⁸ At the base the sides of each leaf were folded under to give the proper attenuation and to enclose some sort of stem which has now disappeared.

Beside the leaves there are the miscellaneous objects:

1. A gold medallion formed of two very thin disks, each one bearing as design a *repoussé* swan in a circle, laid back-to-back and secured by folding the edge of one disk over that of the other (fig. 3, A). It was not a center-piece or *προμερωκίδιον* of a wreath, nor was it for suspension or, considering its lightness, for wear as an amulet. The design is apparently influenced from Clazomenae, although Asian swan-types in general show a different disposition of the wings or neck.⁹ Double-faced medallions are not common, but two are described (not illustrated) in the British Museum Catalogue of Jewellery bearing figures of a flying dove (No. 3066) and a Medusa's head (No. 3092), both of the Roman period. In style our medallion well corresponds to the Hellenistic chronology proposed for the hoard.

2. A single-faced medallion of silver, weighing 1.56 grams and bearing a *repoussé* head of a beardless man facing right (fig. 3, B). The comparatively heavy relief of the lips and of the outline of the nose suggests the technique of the Republican coinage of Rome. Behind the head on the obverse are nine small depressions in an arc, of which three are hidden under incrustation which has "all the appearance of genuine deposit brought about by the action of time,"¹⁰ and on the reverse there are small circular sinkings corresponding to them. This medallion is somewhat more capable of wear than the preceding, but hardly sturdy enough to stand against constant rubbing or contact. Like the

pears. Shape and dimensions are also different. Another leaf (fig. 2, B, right) is unique in showing lightly but clearly marked veins.

⁸ Four have an over-all length of 8.60 cm., while others are only 7.40 cm. long. The weight of a well-preserved example is 1.035 grams.

⁹ Compare the general coin-types of Clazomenae, Mallus and Leuce; for better parallels, compare Forrer, Catalogue of the Weber Collection, iii, pp. 224 f. and pl. 204, nos. 5752 and 5753 (Clazomenae, ca. 387-300 B.C.).

¹⁰ So Mr. E. T. Newell, who examined both medallions. He noted, however, that such objects are easily forged, often by the use of ancient moulds.

other, it shows no hint of soldering or other attachment.

3. Two "hairpins" (fig. 3, C). The larger weighs 0.83 gram, while the smaller weighs 0.87 gram, — a trifle over 1 obol apiece. I am unaware of any parallels of form, although a colleague tells me that he has seen such objects made in bronze. It is doubtful whether our examples could have served any serious purpose in confining the hair or in any thing else, except perhaps the attachment of wreaths. Practical ancient hairpins were usually a single spike.

4. Fragments of a silver ring.¹¹ Like the silver medallion already described, many of these show incrustation. The scanty remains of the bezel formed a round or oval medallion which carried a *repoussé* human figure bearing (or accompanied by) a circular object, perhaps a shield. But the whole ring is quite fragmentary. The other two fragments, together weighing 1.595 grams, join to form the loop of a ring similar to the gold ring next to be described, but curved and bevelled into convexity with a ridge running lengthwise down the middle (fig. 3, D).

5. Gold ring weighing 4.15 grams,¹² of which the bezel is decorated with the figure of a winged lion (fig. 3, E; pl. XXIII, A).¹³ The bezel is an oval 4.20 cm. by 2.65 cm., varying from 0.13 to 0.19 mm. in thickness. In form, shape and decoration it might have been a gold plaque. The circlet is formed by a strip of gold soldered at each end to the reverse face of the bezel near its edge. This strip is about 22 mm. wide at the ends, reducing in the middle to 6.50 mm., which is too wide for convenient wear. The device on the bezel is clearly intended as a lion, although the face and attenuated body are more canine than leonine. Artistically it seems Hellenistic under oriental influence, but close numismatic parallels are lacking. In shape there are reasonably close parallels in the British Museum Catalogue of Finger Rings, Nos. 84 ff., described as a "plain hoop, rounded without, flat within; large oval (nearly round) bezel projecting beyond the hoop."¹⁴

¹¹ 60.48% silver, with impurities and traces of gold.

¹² Slightly less than 1 Attic drachma; compare the rings of 1½ obols and 1 drachma 3 obols dedicated at Athens, CIA II 652 A, 39 f. and B, 20 f.

¹³ Aside from a belief that other parts of the hoard are genuine, I find some support for confidence in this particular item in the traces of incrustation in the *repoussé* hollows of the reverse. Minute scratchings on both sides, but especially on the reverse, more or less following the outline of the relief, may reflect an inexpert modern attempt to remove dirt and incrustation.

¹⁴ P. 17 and pl. III, dated to the Fine Greek period. But in the British Museum specimen the design is engraved into the bezel.

6. Dome-shaped gold ring (fig. 3, F-G), somewhat like British Museum No. 921.¹⁵ The bezel is a plain oval of gold foil, 3.70 cm. by 2.60 cm. and about .013 cm. thick. The loop is of somewhat heavier gold than the bezel; the whole ring weighs 4.175 grams. In flat plan the loop was a strip about 6.60 cm. long, spreading from 1.25 cm. wide in the middle to about 6.30 cm. at the ends. These ends were soldered to the bezel around its entire circumference, the loop was made slightly concave at its narrowest part opposite the bezel, and the whole gave the appearance of the finger of being a massive gold ring. However, like the preceding ring, it is unsubstantial and quite unadapted to any sort of practical use.

To conclude: So far as stylistic evidence goes, the whole group seems to be of late Hellenistic or early Roman date. The flimsiness of the ring just discussed, and the hardly greater serviceability of the other gold ring, seem designed for the sole purpose of obtaining the greatest display with the minimum investment of precious metal. They can hardly have served any of the practical purposes described in the introduction to the British Museum Catalogue,—signet, honorary, etc. Impracticality also characterizes the "hairpins" and medallions. As for the leaves, they were almost certainly combined into wreaths,—perhaps four or five. If the unity and provenance of the hoard is as represented, the whole group may have been funerary or may have been hidden in some time of emergency, for instance by the caretaker of the temple of Artemis Laphria on the Acropolis of Patrae, or of some other divinity. The rings and medallions may have been originally votive and nothing else; the wreaths may have had some honorary uses, or even have been awarded for athletic victories, and the "hairpins" may have been associated with them. It is to be hoped that future scientific excavation will produce evidence bearing upon this hoard.

September 1949

ZEPHYRITIS

HAROLD MATTINGLY, The British Museum

MY plan, in this short paper, is to bring together a few facts that bear on a little known subject—the trade interests of the Egypt of the Ptolemies in the Western Mediterranean during the third and second centuries B.C.—and then to tack on to them an exciting, if not quite certain, speculation.

¹⁵ Catalogue of Finger Rings, p. 149 and pl. xxiii, "late Etruscan, ca. 3rd Cent. B.C. . . . Very flimsy, and intended apparently only for funeral purposes." For a solid ring of the same shape, cf. Swedish Cyprus Expedition, iv pt. 2, p. 163, fig. 34, type 6.

The point of departure must, obviously, be the treaty between Rome and Ptolemy II in 273 B.C. It was not a political alliance, offensive or defensive. The fact that Egypt did not support Rome in the First Punic War proves that. But modern scholars have been far too ready to use that fact to minimize the importance of the treaty. Powers of the standing of Rome and Egypt do not go to the trouble and expense of sending embassies on distant missions without some serious purpose. Evidently, the treaty was commercial in character. We can hardly be wrong in assuming that it regulated the trade relations of the two high contracting powers in that part of the world in which their spheres touched—that is to say in South Italy and, perhaps, Sicily too.

Rome began to strike silver in 269 B.C. and at once produced four distinct series from four mints—Rome and three Italian mints.¹ The didrachm of one of these Italian mints, with obverse of Diana and reverse of Victory, shows one point of remarkable similarity to the gold and silver of the deified Arsinos II. It bears on its reverse Greek single or double letters, A-Ω, AA-ΩΩ, AB, a series from 1 to 49. The coins of Arsinoe bear similar marks, A-Ω, AA-ΩΩ, Α (= AAA), Β (= BBB), a series from 1 to 50. The parallelism is amazingly close and surely deliberate. The suggestion of Svoronos, that we see here an alliance coinage of the two powers, is most attractive.² As the coins, on the Roman side, also bear symbols, presumably marks of the moneyers, the function of the letters is certainly to determine periods of the mint. If the letters represent calendar years, we have a double series, Roman and Egyptian, dated, year by year, for fifty years—the last year being, as yet, unrepresented on the Roman side. It will begin in 269 B.C., the year after the death of Arsinoe, and will run down to 220 B.C., the year of the death of Ptolemy III. Even if the letters do not represent years, but only periods of mint work, we have still a long and continuous series.

The beginning of Roman coinage in silver, actually of the year 269 B.C., is dated in the Chroonicum Paschale to 273 B.C., the year of the treaty; it is fixed both by the Roman consuls and by the regnal year of Ptolemy II. The consuls of the year 269, Q. Ogulnius and C. Fabius, had both been members of the embassy to Egypt in 273. We have already seen that one of the first Roman issues of silver is linked by a striking feature to the coinage of the deified Arsinoe. Little as we might have expected it, it was Egypt, and not any

¹ H. Mattingly, "The First Age of Roman Coinage," *JRS* 35 (1945) 65–77; H. Mattingly and E. S. G. Robinson, "The Earliest Coinage of Rome in Modern Studies," *NumChron* ser. 5, vol. 18 (1938) 1–35.

² J.N. Svoronos, Τὰ Νομίσματα τῶν Κράτους τῶν Πτολεμαίων (Athens, 1904–1908) 4, cols. 142–148.

nearer power, that cooperated with Rome in the institution of her first coinage and, by definite agreement, issued a series of her own, parallel to one of the first Roman issues.

The Roman Diana-Victory didrachm was certainly struck in South Italy, probably in the citadel of Tarentum, where the Romans retained a garrison. The Arsinoe gold and silver was surely struck for circulation over the same area as the Roman. It is not signalized by any marked difference from the other Egyptian issues of the time, but it may well have been struck in a south Italian mint, Tarentum itself, or, perhaps more probably, Locri Epizephyrii. The style of the Diana didrachm cannot be paralleled on contemporary coinages of the West and is probably to be assigned to an Alexandrian artist. The drachm of the Roman series is definitely lighter than the Alexandrian. The Alexandrian decadadrachm should, by weight, equal something more than five Roman didrachms—not quite five and a half. Here is a difficulty, only partly explained by the fact that the Roman drachm is almost exactly of the weight of the reduced Tarentine drachm of the Pyrrhic war. But our inability to state exactly how the Roman and Egyptian coins stood to one another in circulation, cannot cancel the very strong evidence, above quoted, that they actually did circulate side by side.

If Egyptian trade interests in the West were as important as we are suggesting, there must be other evidence of them to be found for the looking. I will restrict myself here to the sphere of coinage and currency.

1. Ptolemaic bronze is occasionally found in South Italy and Sicily.

2. Roman bronze is occasionally found overstruck on Ptolemaic bronze.³

3. The portrait of Philistis on silver of Hiero II bears a distinct resemblance to that of Arsinoe. The coinage of Melita also shows a feminine bust that seems to go back to the same prototype.

4. Polybius, writing of Spain, quotes the "Alexandrian drachm" as the unit of reckoning. He might, of course, only mean a unit of Egyptian weight, but he may well mean more.

5. In a recent paper in the *Numismatic Chronicle*⁴ I have tried to prove that the "little talents" of the West each contained 12 nummi and 120 litrae and represented the attempts of different areas to recover stability after the convulsions of the Hannibalic War. Of these talents, the Alexandrian was equal to twelve denarii—that is to say, the denarius was its

nummus; the Neapolitan equalled six denarii and its nummus was the quinarius; the Syracuse equalled three denarii and its nummus was the sestertius; the Rhenish talent—much the most reduced of them all—equalled the victoriatus. All these four coins—denarius, quinarius, sestertius and victoriatus—were included in the Roman system of silver that accompanied the sextantal As. The area over which the Alexandrian talent prevailed must be taken to represent South Italy, with the exception of Campania (Neapolitan talent) and Bruttium (Rhenish talent). We seem to have the evidence here that the trade relations between Rome and Egypt did not end with the end of the parallel coinage of the Diana-Victory didrachm and the Arsinoe gold and silver, but were still vigorous in the second century B.C. The evidence of politics fits in with this conclusion. Egypt, after moving out of the Roman orbit during the Second Punic War, came back into it with a rush after its close and was never thereafter free for long from predominant Roman influence.

So much, in brief, for the general question. Now for the accompanying speculation.

Arsinoe II was one of those princesses of the Age of the Successors who arouse our admiration by their initiative and courage, and, to be quite sincere, our horror by their ambition and lack of scruple.⁵ Married at first to Lysimachus, King of Thrace, then, after his death, most unhappily to her half-brother, the appalling Ptolemy Ceraunos, she found refuge, in about 277 B.C., in Egypt. Very soon we find her supplanting Arsinoe I, daughter of Lysimachus and wife of Ptolemy II, and marrying him, her half-brother, herself. For the short duration of her reign with him, she was a co-regent in truth, sharing in the decisions of policy, probably, in the main, directing them. Already worshipped in her life-time as Θεά Φιλάδελφος, she was consecrated after her death in 270 B.C. and large temple revenues were allotted to her worship.

Arsinoe, as goddess, was worshipped under the name of Ἀφροδίτη Ζεφυρίτις (or Ἐπιζεφυρίτις), the epithet being connected with Cape Zephyrium in Cyrene where her temple stood. In the *Coma Berenices*, the translation of Catullus from the Greek original of Callimachus, Arsinoe is called not only "Zephyritis," but also "Locris." Some connection with Locri Epizephyrii, which was associated in myth with Cape Zephyrium, seems to be certain. As Arsinoe was certainly not a native of Locri, it must have been in the days of her power that she became so closely associated with the city as to receive both names, "Zephyritis" and "Locris," from it. Add to this the fact that it was the veiled bust of Arsinoe that was chosen as obverse for all the gold and

³ M. Bahrfeldt, "Ueberprägte Münzen aus der Zeit der römischen Republik," *ZfN* 19 (1895) 72 ff., esp. 85–86.

⁴ H. Mattingly, "The 'Little' Talents of Sicily and the West," *NumChron* ser. 6, vol. 3 (1943) 14–20.

⁵ Grace H. Macurdy, *Hellenistic Queens* (Baltimore, 1932) 111–136.

silver coinage that ran parallel to the Roman Diana-Victory didrachms, and the next step is obvious. Arsinoe was deeply interested in the Western policy, of which the treaty with Rome was part; Locri Epizephyrii was the chief Egyptian base in South Italy and honoured Arsinoe as its patroness. After her death, the

head of Arsinoe, "Zephyritis," the "Lady of the West," still appeared on the great pieces of gold and silver, to show to whom the inspiration of the great adventure was due.

October 1949

ARCHAEOLOGICAL NEWS *CLASSICAL LANDS (SUPPLEMENT)*

GREECE

From the *Bulletin on the 1949 Campaign
in Samothrace*

BY KARL LEHMANN

PLATE XXV

A FOURTH campaign of excavations in the mystery sanctuary of the Great Gods of Samothrace was carried on during the summer of 1949 by the Archaeological Research Fund of New York University under the auspices of the American School of Classical Studies at Athens. The campaign lasted seven weeks from the middle of June to early August. It was marked by important new results for the religious and architectural history of the great sanctuary and by the finding of masterpieces of Greek Sculpture.¹

Visitors who came to Samothrace in the past will remember a picturesque wilderness from which a corner of a terrace of huge polygonal masonry emerged near the river bed and half way between the Arsinoeion and the "New Temple." It was on this terrace that the Austrians thought they had discovered the oldest temple of Samothrace in a hasty partial excavation at the end of their work. In excavating a large triangular area between this terrace wall, the river bed and the post-antique lime kilns, we exposed a narrow projecting terrace built of large tufa blocks at the foot of the wall which accompanies its course and ascends on the natural rock as does the lower edge of the wall, in

steps rising from the river bed to the rocky cliff south of the Arsinoeion. The excavation of this triangular area yielded other most important results. Fallen down into it, and intermingled with boulders from the terrace wall and other debris, we found large parts—approximately one hundred building blocks of Thasian marble and limestone—of the superstructure of a hitherto unknown fine Greek building of the early Hellenistic age. This building actually stood on the terrace of the so-called "Old Temple." The ground plan and exact location of this small and graceful Ionic structure remain to be ascertained. We hope that during the next campaign we may be able to uncover its foundations on the terrace from which so large a part of its superstructure fell down in the final catastrophe. Our present impression is that the building was a propylon rather than a monumental altar and that it dates from the time around 300 B.C. or slightly later.

In the course of the most difficult work of disentangling this mass of precious debris from the narrow gorge, we had the good fortune to find large sections of a frieze with dancing girls in archaic style. They belong to a famous Samothracian monument known ever since five hundred years ago, when Cyriacus of Ancona brought sketches of such reliefs back to Renaissance Italy from a visit to Samothrace. Our discoveries have shown that it formed part of the decoration of the newly found building.

One of the main objectives of this summer's campaign was to complete the excavation of that great building in the background of the sanctuary which is commonly known as the "New

¹ Cf. *Art News*, Nov. 1949, pp. 22 f.

Temple." Now the entire foundation of this imposing building is laid bare (a length of ca. 120 feet) after the removal of another 100 marble blocks of the superstructure which had fallen on the rear part of it.

The most important single discovery was that of a masterpiece of Hellenistic sculpture: a life-sized marble statue of a Victory, which though less grand in scale and more quiet in pose than her famous sister in the Louvre, is of excellent quality (pl. xxv).

The statue was discovered by Mrs. Lehmann, who directed the work in this area on the western side of the New Temple not far from the southwestern corner where it lay face down and broken into three major pieces, carefully buried along the euthynteria and directly beneath the level of the ancient soil in a narrow passage between the temple and a building to the west of it.

The new Victory once stood on top of the southwestern corner of the temple as an acroterial decoration. Only the head, parts of the right arm, of the wings, and both hands with their attributes are missing. Poised on her left leg, the Victory was evidently represented as pouring a libation from a vessel in her raised right hand into a patera extended in her left. The figure wears sandals, is draped in a long chiton and a cloak wrapped around the lower part of her body and twisted about her left arm. Over the vertically organized lower draperies there follows an accumulation of dynamic folds out of which the tall and slim upper part of the body emerges as if from a calyx with a plant-like swaying freedom. The sculptural work is of excellent quality and indicates a date around the middle of the second century B.C., contemporary with the period of the new façade and its pediment.

CYPRUS²

BY DECOURSEY FALES, JR.

PREHISTORIC. At Khirokitia, a Neolithic site, Mr. Dikaios conducted an excavation. At the lowest levels, he found the remains of a people who, while they used exclusively stone implements, had attempted to produce pottery. The clay was black, insufficiently baked, and un-

² Mr. Dikaios has kindly made available to the author most of this article, except the part about Kourion.

connected chronologically and stylistically with the pottery of the last stages.

In Nicosia, during the course of building operations, remains of the Early and Middle Bronze Age have been found on either side of the southern part of the Venetian wall.

At Bamboula, next to Episkopi, the late John Franklin Daniel excavated for a few weeks to clear up a number of topographical details preparatory to publication. A clay Mycenaean stair was found.

GEOMETRIC TO HELLENISTIC. At Episkopi, near Ayios Ermoyenis, Mr. G. McFadden enlarged the area of the Hellenistic tombs previously excavated.³ The chief small find is a vase in the shape of a shoe. It is well modeled and covered with black glaze.

At the Hill of the Nymphs by the fourth milestone on the road from Nicosia to Larnaca, whence several Hellenistic pots with long inscriptions in the Cypriot syllabary were known to have come, Mr. Dikaios and Mr. Mitford excavated hoping to find more. A number of inscribed sherds were found.

ROMAN. Of the Roman period, the main discoveries have been at Kourion. At the Sanctuary of Apollo, Mr. G. McFadden discovered a Roman bath with three hypocausts.

At the acropolis of Kourion, the building previously tentatively identified as a palace has been found to be a bath. There are a caldarium and tepidarium separated from two frigidaria by a mosaic floor with a KTICIC figure. Under the mosaic was a smaller private bath. The part previously excavated was the garden and rooms used after bathing. The theater next to the bath has been further excavated. It is Roman with vaulted parodos and a vaulted passage in back of the cavea. On top of the cavea was a colonnade. Underneath the scene building were five large chambers cut in the bedrock.

MEDIAEVAL-TURKISH. Of the later periods, at Nicosia, over the main west door of the Latin Cathedral of St. Sophia, now a Mohammedan mosque, a series of 88 small sculptured figures was discovered. Casts of these were made before they were again covered up.

At Famagusta⁴ Mr. Theo. Mogabgab has

³ *AJA*, 1 (1946), pp. 449-489.

⁴ This information was kindly contributed through Mr. Dikaios by Mr. Theo. Mogabgab.

continued to clear the underground passages of the great ravelin. The clearing of these passages has revealed the damage caused by the Turks in the siege of 1570-71. When they had captured the city, they filled in the place to a height of about 60 feet.

The area to the east of the citadel (the so-called Othello's Tower), upon excavation revealed corbelled outer defences. The space between these outer defences and the inner had been filled in to a height of about 40 feet, the upper half of which is attributed to the remodeling of the Venetians in the sixteenth century.

At the Cathedral Church of the Island, where the Apostle Barnabas is reputed to have been buried, Mr. Mogabgab outside the present apses, uncovered several floors older than that connected with the reliquary containing the Apostle's bones. These await further study.

TUNISIA (1947)⁵

BY GILBERT-CHARLES PICARD,
Director of Antiquities

PLATES XXIII, B-XXIV

CARTHAGE. The excavation of the *tophet* has been completed by P. Cintas.⁶ At the lowest archaeological level, there were found walls belonging to a small cult installation which consisted of a niche some 40 m. on the side fronted by a small chamber and by a court with an altar. Around the whole structure is a sort of labyrinth. The niche contained votive pottery, in particular a dove-shaped askos, a gourd-shaped sprinkler of some kind, three oenochoes, two cylices, and some vases of lesser importance. In addition, Cintas found a foundation deposit under one of the walls, consisting of an amphora with twisted handles and a lamp with a single spout. Clay and decoration both prove these objects to be of Aegean provenance. They date from Subgeometric to Protocorinthian, and the sanctuary is the oldest establishment yet discovered in North Africa. It is certainly the work of the first

⁵ The translation of M. Picard's manuscript, of which the following represents a slight abridgment, was made by H. and S. Immerwahr.

⁶ *Revue Tunisienne*, 3rd ser., i (1948), pp. 1 ff.

⁷ In order to clarify the problem of the first colonization of the Phoenicians in Africa, the *Académie des*

Phoenician sailors to touch Carthage.⁷ This old chapel probably determined the location of the historical sanctuary; at any rate it was covered by more recent votive deposits—some of which had even penetrated the hollow which served as the "Holy of Holies."

In the upper layers of the *tophet*, Cintas found a small Mithraic tauroctone, 50 cm. long. It comes apparently from a Mithraeum near the harbor.

The excavations of the Baths of Antoninus have been continued under the direction of G. L. Feuille, from May through December; the northeastern portion has turned out to be symmetrical to the northwest wing, uncovered last year.

UDNA. The exploration of the Baths has been carried out by German prisoners of war, by command of General Duval, commander-in-chief of the French army in Tunisia, and under the direction of Colonel Reyniers. The building seems closely related to the Baths of Antoninus, and is of the same period according to the brick stamps. The sculptural decoration consisted of numerous statues and heads which will be published by P. Quoniam, a member of the French School in Rome, in the *Mélanges d'Archéologie et d'Histoire*. Most of them are mediocre pieces of the Antonine period; most important are a herm of black marble like those found in the Baths at Carthage and likewise representing an African barbarian, and a small head of white marble from the statue of an Oriental goddess.

MACTAR AND VICINITY. The gymnasium has been completely cleared, and a partial restoration carried out. The building had its entrance on the west side on a cardo. Here a dedication to Caracalla was found of A.D. 202 with the title *princeps juventutis* listed first; probably the *ordo* of Mactar, the authors of the dedication, wanted to honor the princeps on the spot where the *juvenes* of the colony assembled. On the north side, the gymnasium was originally flanked by a *decumanus* which was invaded by constructions of Byzantine date; the floor of one of these late

Inscriptions et Belles Lettres has decided to entrust Cintas with the systematic excavation of the site of Utica, which was according to tradition the oldest Phoenician foundation in Africa. The project was begun in 1948 and will continue for several years.

houses has a fine mosaic with animals which are unfortunately much destroyed.

Toward the end of the campaign we located the Forum. It is in the western part of the ruins and had as its entrance gate the arch of Trajan. Its excavation was reserved for 1948.

South of Mactar, the Roman town of Thigibba (Hamman-Zouakra) has been the site of excavations by Colonel Reyniers who has located the Forum without being able to remove the 2 m. of earth which cover it. The Forum was entered by an arch similar to that at Mactar; on one of the right bases there is the inscription: *si qui(s) hic urinam fecerit habebit martem iratum*. A large number of tombs of the second and third centuries have been excavated together with new epitaphs.

Still further south, on the road to Sbiba (Sufes), we found at Rohia an inscription from a place called Henchir el Left. It appears to be the dedication of an aqueduct serving a *nymphaeum*; compare the inscription from Ain Mdoudja north of Mactar (*CIL*, vii, IV, 23673), which relates in a Vergilian cento the regulation of a spring by one Florentius.

At the same place a strange funerary stèle represents symbolically the superimposed "spheres" (air, water) which the soul traverses before finding rest in the subastral regions, under Olympus where Caelestis reigns.

North of Mactar, the site of Ksar Toual, where Ch. Saumagne had thought to locate Zama Regia, has been explored by Louis Deroche, a member of the French School of Rome. An account of this campaign will be given in the next report.

BULLA REGIA. In the course of clearing and restoration a fine statue of white marble was discovered, representing a nymph; so also a column bearing the following inscription: *C. Helvius Bargibal suo et filiorum suor(um) nomine colum-nam tribul(ibus) suis prom(isit) itemq(ue) donavit*. From this text it appears that the people of the colonia of Bulla Regia were divided not into curiae, as is the rule in Africa, but into tribes

ACHOLLA (BOTRIA). Excavations undertaken on the site of Botria on the coast 45 km. north of Sfax have showed its exceptional importance. The ruins cover an area of about 200 hectares close to the coast, which at this point forms a small cape sheltering a harbor which today is

submerged, but whose pier remains intact under water. Several important buildings, among them an amphitheater, are clearly visible. Wilmanns had suggested identifying the place with Acholla, one of the *civitates liberae* included in the province of Africa in 146 B.C., an identification now proved correct by the discovery of an inscription. From the identification of Acholla follows that of Ruspe which is recognizable on the coast about ten kilometers further south near Sidi Mzarra, where ruins have kept the name Koudiat el Rosfa.

In Acholla trial excavations have made it possible to recognize a large number of buildings, mostly villas, paved with mosaics of exceptional quality. The most important of these monuments is the Bath from which comes the inscription of the *Populus Achollitanus*. In addition, there was found here a fragment of a marble plaque seemingly bearing the number of the thirteenth acclamation of the Emperor Trajan (A.D. 116), perhaps the dedication of the building. The main interest lies in the mosaics of the *frigidarium*. The floor of the large rectangular room was longitudinally divided into three sections. In the eastern one, in a square emblema, Dionysus is shown advancing in a chariot drawn by two centaurs (pl. xxiv); in medallions to the north and south, Spring and Summer flank the triumphant god; in the remainder of the strip are displayed gods and marine monsters. The center of the room is subdivided by axial and diagonal lines into eight triangular sections, each representing a nymph and satyr at play, while all around runs a frieze with centaurs fighting wild animals.

In the center of the room with the double apse to the north, a hexagonal medallion, partially destroyed, contained a nude and a draped figure, one leaning against the other. On either side toward east and west the decoration consisted of an imaginary architecture corresponding to the Pompeian wall decoration of the fourth style. Under an arch a Victory advances in her chariot between winged masks of winds joined with Tritons blowing their trumpets. Beneath the Victory, in an elongated space corresponding to the plinth of the wall, a sacred grove populated by peasants gathering fruit encircles a large trophy with chapels in which one sees statues of Dionysus and Corybantes.

There can be no doubt that the whole ensemble derives directly from Alexandrian prototypes. Such an origin is rendered certain by the general theme, devoted to the triumph of Dionysus Cosmocrator, which could serve as an illustration to the text of Callixenus of Rhodes (Ath., *Deipn.*, v, 196a-200a), by many details (sphinxes, lotus flowers, radiate gorgoneia, gilt figures mixed with scrolls), and the picturesque motifs, such as that of the sacred grove, reminiscent of the Nilotic landscapes so common in the decorative paintings of the end of the first and the beginning of the second centuries.

In addition to the Baths of Trajan the excavations have brought to light another bath with a room with double apse, the pavement of which represented a magnificent group of marine centaurs. The private houses were decorated no less lavishly. One of them could be excavated completely, and gives a good idea of what Punic houses must have been like, a mass of small rooms juxtaposed without order; at a date subsequent to the first construction an attempt seems to have been made to give the ground plan greater regularity by making it closer to the Hellenistic type. However, the peristyle is reduced to a narrow court with stuccoed columns painted red, and with basket capitals which seem to derive from a debased lotiform order. The walls were constructed of mudbrick, as are still the houses of the Sahel, upon a socle of small stones. But they were covered with pictures of Pompeian type, of which some fragments have been recovered. The floor was covered with magnificent mosaics, the best of which represents the busts of the Four Seasons grouped around a basket of flowers (pl. xxiii, b). Other houses have yielded further mosaics and fragments of paintings.

Still closer to the sea we found traces of a Christian shrine with a double baptistry as well as tombs, some with mosaics.

It is possible to recover in outline the history of Acholla, a *civitas libera* since 146 B.C., adhering to the party of Caesar before Thapsus because of the importance of the emporium of Cercina, occupied shortly before by the dictator. The greatest prosperity of the town must be placed in the first and the beginning of the second centuries. A coin found in the excavations with an illegible Punic legend and the head of a god covered with a plumed tiara, must doubtless be compared with pieces bearing a legend in Latin, of the Augustan period, which L. Müller attributes to this town. It seems that the name of Acholla is concealed in that of the *municipium Ailium Hadriatum Augustum Chlulitanum* or *Chullitanum* in the inscription of Q Aradius Proculus (*CIL*, vi, 1684).⁸

THAENAE (THINA). The ruins, extensive but much effaced, lying 10 km. south of Sfax, have been explored under the direction of Professor Frindel of the College at Sfax. The most interesting discovery is that of a gate of the fortification in which the base of an equestrian statue was used as lintel; it bears an honorary inscription of the centurion Q. Aemilius Pudens, brother of Q. Aemilius Laetus, the famous praetorian prefect of Commodus, and his murderer: the cause also of the fall of Pertinax, finally put to death by Didius Julianus. Hitherto the origin of this high-born schemer had been unknown. His influence may no doubt explain the appearance of Africans in the high echelons of the administration at the end of the second century.

⁸ A preliminary report of these discoveries has appeared in *CRAI*, 1947, pp. 557-562.

NECROLOGY

STEPHEN B. LUCE, *Editor-in-Charge*

CARL WATZINGER, —born Sept. 6, 1877 in Darmstadt, died Dec. 8, 1948 in Tübingen. He studied in Heidelberg, Berlin and Bonn. In 1904 he became lecturer in Berlin; 1905 professor in Rostock; 1909 in Giessen, and in 1916, until his death, in Tübingen. He married Maria von Bollinger in 1912. They had three children, who survive.

The main field of Watzinger's research was Hellenistic art in the Greek Near East. This began in 1901 when he won the fellowship of the German Institute in Athens. In 1903 he was commissioned to publish the wooden sarcophagi excavated in Abusir, Egypt, by the German Oriental Society. He travelled to Southern Russia in order to study the parallels there. The result is an important work, *Ausgrabungen der Deutschen Orient-Gesellschaft in Abusir, 1902–1904*, III, *Griechische Holzsarkophage aus der Zeit Alexanders des Grossen*, 1905. Watzinger saw that the similarity must stem from a common origin of the models in Asia Minor, probably Miletus, the mother city of Kerch in Southern Russia. Another fruit of his travels in Russia is a volume on Greek tomb reliefs from Southern Russia: *Griechische Grabreliefs aus Sudrussland*, 1909, which he published on the basis of material collected by the Russian scholar G. von Kieseritzki. It is a supplement to the tomb reliefs published by A. Conze, and arranged according to the same system. When the corpus of all East Greek tomb reliefs prepared by E. Pfuhl is published, it will owe much to this work by Watzinger.

A work on the relief of Archelaos of Priene, in the British Museum, *Das Relief des Archelaos von Priene*, 63. *Winckelmann's-Programm*, Berlin, 1903, discusses a group of nine muses which appear also on a base of Halicarnassus, and in many statues in the round. This investigation has become the basis of lively discussions as to the date of these types. The right answer was finally given by Rudolf Horn, now professor in Göttingen, in his *Stehende weibliche Gewandstatuen in der Hellenistischen Plastik*, a painstaking research in the standing draped female statues in Hellenistic sculpture which appeared as Supplement II to the *Römische Mitteilungen des deutschen arch. Instituts*, 1931. While these statues belong to the middle and second half of the second century, Watzinger has rightly dated in the first century B.C. statues found by C. Humann and J. Kohte in Magnesia on the Meander, *Magnesia am Meander, Bericht über die Ergebnisse der Ausgrabungen der Jahre 1891–1893* (1902), pp. 198 ff. This is an important date for the history of the late Hellenistic sculpture.

During World War I, Watzinger, together with the Byzantist K. Wulzinger, accompanied Wiegand, who had been appointed curator for all ancient monuments in Turkey, on extensive expeditions into the interior of Asia Minor, Syria and Palestine. Watzinger broke his leg in the Taurus mountains and was confined to a hospital for a time. Hardly recovered, he again joined Wiegand and Wulzinger in Jerusalem and travelled with them, 1916–17, in Southern Palestine and to Damascus, where the city plan was investigated. In 1913 Watzinger had already published, with E. Sellin, the results of the excavations at Jericho; and in 1916, with H. Kohl, a standard book on the ancient synagogues in Galilee was published. Both publications appeared in the *Wissenschaftliche Veröffentlichungen der Deutschen Orient-Gesellschaft*, XXII and XXIX. Later followed the two volumes on Damascus by Watzinger and Wulzinger, on the ancient city in 1921 and on the Islamic city in 1924. Both appeared in the *Wissenschaftliche Veröffentlichungen des deutsch-türkischen Denkmalschutz-Kommandos*, IV–V. Finally in 1933 Watzinger published an introduction to the archaeology of the Holy Land: *Denkmäler Palästinas*, I, from the beginning to the end of the Israelitic kingdom, and in 1935, II, from the rule of the Assyrians to the Arabic conquest.

In the publication of the expedition of Ernst von Sieglin, *Ausgrabungen in Alexandria*, Watzinger took it upon himself to publish the Alexandrian sculptures in the collection of Ernst von Sieglin, after Schreiber, the director of the expedition, and Pagenstecher who was to write this part, had died. This Volume I, Part II B, 1927, contains important contributions to Alexandrian art, although Watzinger did not attempt to write the difficult and comprehensive history of this art as planned by Schreiber and Pagenstecher.

In the field of vase painting, Watzinger wrote his doctoral dissertation: *Studien zur unteritalischen Vasenmalerei*, 1899. His excellent and concise catalogue of the vases in Tübingen appeared in 1924 as Vol. II of the *Tübinger Forschungen zur Archäologie und Kunstgeschichte*, of which he was editor. He contributed the text for the last plates (171, 174–180) and the indices to Furtwängler, Hauser and Reichhold, *Griechische Vasenmalerei*, III, after the death of these authors (1932). Most of the vases on these plates come from southern Italy, where he had already found the material for his dissertation.

A monumental biography of Wiegand: *Theodor Wiegand, ein deutscher Archäologe*, 1864–1936, which appeared in 1944, not only gives a lively picture of this

great man to whom we owe the excavations of many Hellenistic cities like Priene, Miletus and Pergamon, but also of these excavations themselves and of their building under great difficulties of the grandiose architectural museum in Berlin, in which the market gate of Miletus and the great altar of Pergamon were among the most valuable objects (now dismantled and taken to Russia). As Watzinger had not only seen all the places in which Wiegand worked, but had himself taken active part in many of them, for example in Miletus, this book is a memorial not only for his venerated older colleague, but also for Watzinger himself.

The last work of Watzinger is again a monument of friendship. H. Dragendorff and C. Watzinger, *Arretinische Reliefkeramik*, 1948, based on a manuscript left by Dragendorff after his death and on the rich collection of Arretine ware in Tübingen.

Death has ended a full life of an unselfish, active, manly, and highly respected scholar. (Margarete Bieber)

PIERRE JOUGUET.—On July 9, 1949, Pierre Jouguet, for nearly fifty years a leading figure among papyrologists and students of the Hellenistic East, died in his eighty-first year. Trained at the *École Normale Supérieure* and at the French archaeological schools at Athens and at Cairo, he made his first significant contribution to the literature of his field with his publication of *Ostraka de la Fayoum* in 1902. There followed the *Papyrus grecs* of Lille University, edited with the collaboration of P. Collart and others (1907–08), and in 1911, both his *Papyrus de Théadelphia* and his masterly *Vie municipale dans l'Égypte romaine*. These two works, particularly the latter, placed him immediately in the front rank as a papyrologist and historian. In 1926 appeared his *Imperialisme macédonien et l'hellenisation de l'Orient* which embodied his mature views on the history of the Hellenistic period. A year later it was published in an English translation. Jouguet was also co-author of another historical work, *Les premiers civilisations*, of which the first edition also was published in 1926 and the third in 1937. In addition to these major works, he contributed many important articles and a large number of reviews to historical, philological and papyrological periodicals. He also served for many years as an editor of the *Revue égyptologique* and the *Revue de philologie, de littérature et d'histoire ancienne*.

Jouguet was as distinguished a teacher and lecturer as he was a scholar. Among his various academic posts were those of *maitre de conférences* at the University of Lille, professor at the University of Paris, director of the *Institut français d'archéologie orientale* at Cairo, and, finally, after his retirement from active duty in

his native institutions, professor in the Egyptian university Fouad I in Cairo. Foreigners who were acquainted with him will never forget his friendliness, his charm of manner, and his willingness to devote time and energy to assist them with their problems. His intimate knowledge of Egypt and his winning personality admirably fitted him to serve as *conseiller culturel* to the French embassy in Cairo. During World War II he was president of the *Comité national de la France combattante* in Egypt.

Few scholars have received greater international recognition than did Pierre Jouguet. The list of the learned societies of which he was an active or an honorary member is almost a complete roster of the leading learned societies of Europe. And both his own and foreign countries bestowed upon him rewards for distinguished service.

To the last, Jouguet remained faithful to his chosen field of scholarly activity. At the time of last illness, he was president of the *Institut international de recherches hellénistiques* of Alexandria, a newly founded institution for which he was busily enlisting the cooperation of European and American scholars. He had been chosen as honorary president of the first post-war International Congress of Papyrologists which convened in Paris at the end of August, but death deprived him of the pleasure of enjoying this well-merited honor. (A. E. R. Boak)

PAUL BOYER.—Word has recently been received of the death of Professor Paul Boyer, Honorary Director of the School of Oriental Languages in Paris.

He was born at Cormery in Touraine in 1864, and was a graduate of the *École des Hautes Études*, with distinction. He then devoted himself entirely to linguistic studies, particularly in Russian philology. For forty-five years he taught this subject in the well-known School of Oriental Languages at the Rue de Lille in Paris, of which he became Director in 1908, retiring in 1936. Many generations of students, both French and foreign, owe their knowledge of Russian to him. Furthermore, his textbook on Russian Grammar, still of fundamental importance, places many others in his debt, with whom he was never in personal contact.

Paul Boyer was one of the most energetic promoters of international cultural collaboration, and was especially interested in the inter-exchange of students and scholars between France and America. Having lost his only son in World War I, and having lived through the horrors of the second war, he was convinced of the vital necessity of friendly relations and mutual understanding between his country and the United States. He was one of the most faithful and devoted collaborators of Thomas Whittemore of Boston,

founder and Director of the Byzantine Institute of America, and became a Life Member of the Institute. It was entirely owing to his personal initiative that the Paris Library of the Byzantine Institute received

the spacious rooms in which it has been located at 4 Rue de Lille since 1930. American scholarship in him has lost a true and faithful friend. (S. B. L.)

ARCHAEOLOGICAL DIGEST

C. BRADFORD WELLES, *Editor*

This is the first issue of the *Digest* in the compressed form made necessary by the large volume of material to be covered and the straitness of the *Journal's* budget. In view of the brevity of the notices, the Editor has dispensed with assistants. The major journals covered are: *Acta Archaeologica*, xviii (1948); *Aegyptus*, xxvii (1947), xxviii (1948); *Annuaire du Musée national archéologique, Plovdiv*, i (1948); *Antiquity*, xxiii, 91 (Sept. 1949); *Archaeologia (Warsaw)*, i (1947), ii (1948); *Athenaeum*, n.s., xxvi (1949); *Bonner Jahrbücher*, 147 (1947), 148 (1948); *Ecole française de Rome, Mélanges d'archéologie et d'histoire*, lx (1947); *Hesperia* xviii, 3 (1949); *Illustrated London News*, 1 July-1 November 1949; *Jahrbuch des deutschen archäologischen Institutes*, lix/lx (1944/45); *Journal of Juristic Papyrology*, ii (1948); *Journal of Near Eastern Studies*, viii, 3-4 (1949); *Memoirs of the American Academy in Rome*, xix (1949); *Mitteilungen der Gesellschaft für Anthropologie, Ethnologie und Prähistorie*, lxxiii-lxxviii (1947); *Musée national Bulgare, Fouilles et Recherches*, i-ii (1948); *Opuscula Archaeologica*, v (1948); *Orientalia*, xviii, 3 (1949); *Papers of the British School at Rome*, xvi (n.s. iii, 1948); *Revue Archéologique*, 6th ser., xxxiii (1949); *Revue Biblique*, lvi, 2 (1949); *Revue des Etudes Anciennes*, 1, 3/4 (1948); *Revue des Etudes Grecques*, lxii (1949); *Revue Historique*, cci (1949); *Rivista di Studi Liguri*, xv (1949); *Royal Central Asian Journal*, xxxvi (1949).

GENERAL

L'Année Philologique, xviii, Bibliographie de l'Année 1947 (1949), contains 38 pages devoted to archaeology, 4 of papyrology, and 14 of epigraphy and numismatics.

Lothar F. Zotz, "Ein altsteinzeitliches Idol des Zweigeschlechterwesens," *FuF*, xxv, 11/12 (June 1949), pp. 121-123.

August Oxé, "Kor und Kab," *Bonn. Jahrb.*, 147 (1942), pp. 91-216. Origin of ancient system of weights and measures. Kor is the weight of a camel's load (195.696 kg.), the Kab 1/120 of the Kor, both taken from ancient Babylonia. (But was the camel actually used in ancient Babylonia? It has been supposed that

its domestication did not occur until the beginning of the Iron Age.)

V. G. Childe, "The Origin of Neolithic Culture in Northern Europe," *Antiquity*, xxiii, 91 (Sept. 1949), pp. 129-135. First Northern ("Funnel-necked-beaker") Culture arose between Oder and Vistula, under Danubian influence.

Helmut Otto, "Typologische und technologische Bronzezeit," *FuF*, xxv, 7/8 (April, 1949), pp. 73-76.

L. R. Palmer, "The Homeric and the Indo-European House," *Transactions of the Philosophical Society*, 1948, pp. 92-120. Comparison of Odysseus' house with north European buildings, showing the megaron to have a sunken floor with raised benches at the sides, and women's quarters in an upper storey.

Franz Hančář, "Hallstatt-Kaukasus. Ein Beitrag zur Klärung des Kimmerierproblems," *Mitt. d. Gesell. f. Anthropologie, Ethnologie und Prähistorie*, lxxiii-lxxviii (1947), pp. 152-167. The Cimmerians may have been the bearers of the Hallstatt culture.

Fernand Benoit, "Soufflets de Forge Antiques," *REA*, I, 3/4 (1948), pp. 305-308.

Arvid Andrén, "Classical Antiquities in the Zorn Collection," *OA*, v (1948) pp. 1-90. Collection of the Swedish artist Anders Zorn, now in Mora. Includes statuary, bronzes, figurines, pottery, glass, lamps, and jewelry, of various periods.

AA (JDAI, lix/lx, 1944/45) contains Ludwig Curtius, "Falsche Kameen" (pp. 1-24); Reinhard Lullies, "Charon" (pp. 25-28); Fritz Eichler, "Architektonische römische Tonreliefs in Wien" (pp. 28-33); K. Bittel, A. M. Schneider, "Fund- und Forschungsbericht Türkei 1943" (pp. 33-81).

Ray Winfield Smith, "The Significance of Roman Glass," *BMMA*, viii, 2 (Oct. 1949), pp. 49-60.

A. Alföldi, "Die Spätantike in der Ausstellung 'Kunstschatze der Lombarden' in Zürich," *Atlantis*, 2, 1949, pp. 61-92.

P. Lemerle, "Aux Origines de l'Architecture Chrétienne. Découvertes et Théories nouvelles," *RA*, 6th ser., xxxiii (1949), pp. 167-194.

Meyer Schapiro, "The Place of the Joshua Roll in Byzantine History," *GBA*, xxxv, March 1949, pp. 161-176.

GREECE

Claude F. A. Schaeffer, "Chronologie et Origine de la Civilisation du Bronze Ancien de Chypre," *RA*, 6th ser., xxxiii (1949) pp. 129–149. Discovery of copper mines perhaps due to invaders 2400–2300 B.C.

Homer A. Thompson, "Excavations in the Athenian Agora, 1948," *Hesperia*, xviii, 3 (1949), pp. 211–229.

Christian Callmer, "Les Recherches de A. F. Sturtzenbecker à Delphes et dans les Environs, en 1784," *OA*, v (1948), pp. 113–144. Journal of a Swedish traveler.

Man. Andronikos, "On the Walls of Olynthus," *Publications of the Society for Macedonian Studies*, ii (Thessalonike, 1949), pp. 1–14 (in Greek). On the West, the city wall served also as the exterior house walls.

Jerzy Pilecki, "Wielopostaciowa Koncepcja Zwierząt w Kulturze Egejskiej," *Archaeologia* (Warsaw), ii (1948), pp. 17–30. Summary in French, pp. 484 f. Sphinx and griffin originated in Mycenaean art, and spread to the islands.

Roar Hauglid, "The Greek Acanthus," *ActaA* xviii (1948), pp. 93–116. The ornament originated in the leafing of volutes in the fifth century B.C., and later became naturalistic.

Heinz Kahler, Rev. of Et. Lapalus, *Le fronton sculpté en Grèce*, *Gnomon*, xxi, 3/4 (1949), pp. 151–160.

Homer A. Thompson, "The Pedimental Sculpture of the Hephaisteion," *Hesperia*, xviii, 3 (1949), pp. 230–268. Recent discovery of five new pedimental fragments, and one from an acroterium, led to the identification of the subject of the east pediment as Heracles and the Hesperides.

Gorham Phillips Stevens, "A Doorsill from the Library of Pantainos," *ib.*, pp. 269–274. Shows how the building was locked.

Edmund Bulanda, "Nowy Pomnik Zwycięstwa pod Maratonem," *Archaeologia* (Warsaw), ii (1948), pp. 105–116. Summary in French, pp. 490 f. The Callimachus monument on the Acropolis, and the forgotten role of the polemarch in the battle of Marathon.

Dorothy Kent Hill, "A Greek Shepherd," *The Journal of the Walters Art Gallery*, xi (1948), pp. 19–23. Bronze figurine of sixth cent. B.C.

N. M. Verdélis, "Lécythe à Figures Noires inédit à Représentations agonistiques," *REA*, I, 3/4 (1948), pp. 201–208. The Diosphos painter. In the Athens Museum.

Erik J. Holmberg, "Two White-ground Vases in a Private Collection in Athens," *ActaA*, xviii (1948), pp. 187–195. An alabastron of the Syriskos painter (ca. 480 B.C.) and a lekythos of the Reed painter.

Georges Daux, "Listes delphiques de théárodoques," *REG*, lxii (1949), 1–30. Chronology and corrections of three lists.

YUGOSLAVIA

Kazimierz Majewski, "Chronologia i Styl Plastyki Figuralnej Zachodnio-Tripilskiej," *Archaeologia* (Warsaw), ii (1948), pp. 1–16. Summary in French, pp. 477–483. Relative chronology of the prehistoric figurines of the upper Dniester and Pruth valleys.

Gero von Merhart, "Donauländische Beziehungen der früheisenzeitlichen Kulturen Mittelitaliens," *Bonn. Jahrb.*, 147 (1942), pp. 1–90. Chronological relations also to Greece and Middle East. Early Villanovan begins ca. 1100 B.C.

Spomenik, xviii (1941–48), of the Serbian Academy of Sciences, is devoted to a topographical catalogue of finds in the field of Roman archaeology, inscriptions and reliefs, under the editing of N. Vulitch. The material extends to over 600 items.

BULGARIA

"Sofia's Roman Wall," *Free Bulgaria*, iv, 12 (June 15, 1949), pp. 186 f. Recent discoveries in Sofia.

"Nouvelles Archéologiques," *Annuaire de Musée national archéologique, Plovdiv*, i (1948) pp., 159–210. Minor excavations and finds in Bulgaria.

N. Petkov, "Le Tell Guinova Moguila près de Tchelopetch," *Musée national Bulgare, Fouilles et Recherches*, i (1948), pp. 75–81. Summary in French, p. 81. Period 2200–1900 B.C.

Musée national Bulgare, Fouilles et Recherches, ii (1948): "Apollonie Pontique," Contains Iv. Venecov, "Fouilles de la nécropole d'Apollonie" (pp. 7–29); Th. Ivanov, "La céramique de la nécropole d'Apollonie" (pp. 30–50); T. Dremsisova, "Les figurines en terre cuite de la nécropole d'Apollonie" (pp. 51–58); G. Mikhailov, "Inscriptions" (pp. 59–67). Among the last is the right side of a city decree of the third century B.C., containing the name of Antiochus (Antiochus II, according to the editor). There is perhaps too little preserved to support the editor's restorations.

Dim. Tsontchev, "Les antiquités sur les pentes septentrionales du Balkan d'Eléna et de Sliven," *Annuaire du Musée national archéologique, Plovdiv*, i (1948), pp. 113–149. Summary in French, pp. 150–152. Eastern part of the central Balkan. Some Neolithic remains, Hellenistic coins, and a line of forts of the fourth century of the Christian era.

V. Mikov, "Fouilles du site préhistorique près de Mikhalitch," *Musée national Bulgare, Fouilles et Recherches*, i (1948), pp. 7–23. Summary in French, pp. 24 f. Fortified village of late Neolithic, flints, pottery, figurines. "La station énéolithique de Krivodol," *ib.*, pp. 26–59. Summary in French, pp. 60–62. Fortress of Eneolithic Period (2200–1900 B.C.), yielding much interesting pottery, as well as clay and bone figurines, etc.

G. Il. Gueorgiev, "La station énéolithique près de

Kolena," *ib.*, pp. 63-74. Summary in French, pp. 73 f. Little flint; bone, clay weights, jewelry, pottery.

P. Détev, "Le tell Yassa tépé près de Plovdiv," *Annuaire du Musée national archéologique, Plovdiv*, i (1948), pp. 1-13. Summary in French, p. 14. Settlement of the Eneolithic, with farm house and utensils.

Dim. Tsonchev, "Bourgade antique près de Brani-pole," *ib.*, pp. 35-46. Summary in French, p. 47. Traces of habitation from Eneolithic to Roman times. Dedication to Thracian god Μηδούσεύς of A.D. 76. "Tombeau tumulaire antique près d'Orisovo," *ib.*, pp. 15-24. Summary in French, pp. 24 f. Bronze objects, situla, pitcher, vase, and ornamental plaques, some showing the animal style, and an iron spear point of the fourth century B.C.

Lilia Botoucharova, "Le sanctuaire Thrace près du village de Dulévo," *ib.*, pp. 61-73. Summary in French, p. 74. Votive plaques, with dedications to Zeus, Hermes, Hecate, and Cybele.

Iv. Venedicov, "Bargala," *Musée national Bulgare, Fouilles et Recherches*, i (1948), pp. 82-97. Summary in French, p. 98. Exploration of the vicinity of the Roman Bargala in Macedonia. Burials show an Illyrian population in Hallstatt period, and a Thracian one in the Empire.

Th. Ivanov, "Armure de guerrier Thrace trouvée à Assenograd," *ib.*, pp. 99-107. Summary in French pp. 107 f. Helmet, greaves, and torc of a Thracian warrior of fourth century B.C., bearing name Αγαθάνωρ. "Trouvailles de Nicopolis ad Istrum," *ib.*, pp. 109-114. Summary in French, p. 115. Architecture and inscriptions, including epitaph of a νέος ἡρως. S. N. Bobchev, "Nouvelles données sur l'Odeion à Nicopolis ad Istrum," *ib.*, pp. 116-123. Summary in French, pp. 124 f. Plans and reconstructions.

Z. Rakéva-Morfova, "Monuments de Dionysos au Musée national," *ib.*, pp. 126-131. Summary in French, pp. 132 f.

Lilia Botoucharova, "Un nouveau Monument de la Déesse Celtemaine Epona," *RA*, 6th ser., xxxiii (1949), pp. 164-166. Relief from Plovdiv. "Monuments antiques de la Bulgarie," *Annuaire du Musée national archéologique, Plovdiv*, i (1948), pp. 49-55. Summary in French, p. 56. Reliefs and figurines of the Roman period.

Ion I. Russu, "Thracica," *ib.*, pp. 57-59. Epigraphical notes and corrections.

Th. Gerassimov, "Un Trésor de Monnaies d'Apolonie Pontique," *Musée national Bulgare, Fouilles et Recherches*, i (1948), pp. 134-147. Summary in French, p. 149. Coins of the fifth century of the Christian Era.

TURKEY

The *Third Report of the Archaeological Museums of Istanbul* (1949) contains a list of accessions, 1937-

1947, in Turkish and English, with illustrations.

Halet Cambel, "Archäologischer Bericht aus Anatolien," *Orientalia*, xviii, 3 (1949), pp. 363-372.

H. Frankfort, "Ishtar at Troy," *JNES*, viii, 3 (1949), pp. 194-200. Would connect the 'face-urns' in Troy II with the Ishtar symbols of Protoliterate Period, and assume a cultural connection.

Kazimierz Majewski, "O Niektórych t. zw. Brazach Syro-Hetyckich," *Archeologia* (Warsaw), i (1947), pp. 209-212. Summary in French, p. 370. Syro-Hittite bronze figurines of a male standing god, common in museums, are probably forgeries.

Fritz Eichler, "Zwei kleinasiatische Säulensarkophage," *JDAI*, lix/lx (1944/45), pp. 125-136.

A. Dupont-Sommer, "Le Déchiffrement des Hiéroglyphes Hittites et les Inscriptions bilingues de Karatepe," *RH*, cci (1949), pp. 219-223. Discussion of the problem, and a translation of the Phoenician text.

ISRAEL - JORDANIA

P. Benoit, "Notes d'Archéologie Transjordanienne," *RB*, lvi, 2 (1949), pp. 295-299. Notes, on the discovery of a Bronze Age site at al-Samakiyah, on a Greek inscription found there (Βάχις Μίχον), on two pieces of pottery from Bab al-Dra', and on the orientation of the obelisks on the high place of Petra (they are oriented east-west, but could not serve to detect the equinox, as Jotham Johnson).

G. Lankester Harding, "The Seals of Anoni Nur, Servant of the Ammonite King: New Finds from a Seventh-Century B.C. Jordanian Tomb," *ILN*, 5759, Sept. 9, 1949, p. 351.

L.-H. Vincent, "Les Épigraphes judéo-araméennes postexiliques," *RB*, lvi, 2 (1949), pp. 274-294. Takes the abbreviated jar stamps to mean either Jerusalem or Jahve, as certification (against Sukenik).

M. Abel, "Topographie du siège de Jérusalem en 70," *ib.*, pp. 238-258. Course of the siege traced on the ground.

"Biblical Texts of Vast Import: Hebrew Scrolls of Holy Writ found in a Cave near Jericho," *ILN*, 5757, Aug. 20, 1949, p. 261; G. Lankester Harding, "The Dead Sea Scrolls: Excavations which establish the Authenticity and Pre-Christian Date of the Oldest Bible Manuscripts," *ib.*, 5763, Oct. 1, 1949, pp. 493-495. O. R. Sellers, "Study of Finds in the Ain Fashkha Cave"; G. Ernest Wright, "Additional Comments on the Scroll Cave," *BA*, xii, 3 (1949), pp. 54-65. Exploration of the cave where the Hebrew rolls were found. R. P. R. Tournay, "Les anciens manuscrits hébreux récemment découverts," *RB*, lvi, 2 (1949), pp. 204-233. Believes them of Herodian times. R. de Vaux, "Post-Scriptum, La Cachette des Manuscrits Hébreux," *ib.*, pp. 234-237. Clearing of the cave. Pottery of late second or early third century B.C. John C. Tre-

ver, "Identification of the Aramaic Fourth Scroll from Ain Feshkha," *BASOR*, 115, Oct. 1949, pp. 8–10. As "the lost book of Lamech." W. F. Albright, "On the Date of the Scrolls from Ain Feshkha and the Nash Papyrus," *ib.*, pp. 10–19. Defense of his date against Zeitlin. Solomon A. Birnbaum, "The Dates of the Cave Scrolls," *ib.*, pp. 20–22. Isaiah scroll to ca. 175–150 B.C., Covenant scroll to 125–100, and Habakkuk scroll to 100–50.

EGYPT

Walter Federn, "Egyptian Bibliography," *Orientalia*, xviii, 3 (1949), pp. 325–335; 4 (1949), pp. 443–472.

Silvio Curto, "Gli Scavi Italiani a el-Giza del 1903," *Aegyptus*, xxviii (1948), pp. 199–212. Fourth dynasty statue of Atote.

H. Kees, "Ein Sonnenheiligtum im Amonstempel von Karnak," *Orientalia*, xviii, 4 (1949), pp. 427–442. Identification of a chapel in the temple of Thuthmose III, and list of priests.

P. L. Shinnie, "An Egyptian Outpost with a Unique Snake Cult: The Brief History of 3000-year-old Amara West," *ILN*, 5766, Oct. 22, 1949, pp. 633–635.

William K. Simpson, "The Tell Basta Treasure," *BMA*, viii, 2 (Oct. 1949), pp. 61–65. Illustration of the chief items in the Metropolitan Museum of a hoard from the Bast temple near Zagazig, dating from the end of the thirteenth century B.C.

Harold H. Nelson, "Certain Reliefs at Karnak and Medinet Habu and the Ritual of Amenophis I," *JNES*, viii, 3 (1949), 201–232; 4 (1949), pp. 310–345. In the light of the reliefs, the "ritual" may be accepted "as part of that of the temple of Amun at Karnak adapted to the cult of Amenophis I."

T. George Allen, "Some Egyptian Sun Hymns," *JNES*, viii, 4 (1949), pp. 349–355.

James H. Oliver, "On Edict II and the Senatus Consultum at Cyrene," *MAAR*, xix (1949), pp. 103–114. Restores $\tau\epsilon$ in gap in l. 50.

A. Calderini, "Testi recentemente pubblicati," *Aegyptus*, xxvii (1947), pp. 186–211; xxviii (1948), pp. 214–220.

Georgius Manteuffel, "Papyri e Collectione Varsoviensi," *JJP*, ii (1948), pp. 81–110. Euripides, Menander, and non-literary of Roman date.

Orsolina Montevercchi, Giovanni Battista Pighi, "Prima cognizione dei papiri dell'Università di Bologna," *Aegyptus*, xxvii (1947), pp. 159–184. Inventory, transcription of several texts.

J. Klass, "Naubion Abgabe von Katōken- und Lehnsländen in Tebtynis," *Aegyptus*, xxviii (1948), pp. 100–110. P. bibl. univ. Giss. Inv. 274r, ca. A.D. 150.

Dino Pieraccioni, "Una Restituzione di Mutuo del 173^p in un Papiro Fiorentino inedito," *ib.*, 97–99.

Karl Kalbfleisch, "Schiffahrtsvertrag," *Aegyptus*,

xxvii (1947) pp. 115–117. P. Jand, Inv. 245, A.D. 222.

Anna Świderek, "Professionis q.d. Prophonestis Fragmentum," *JJP*, ii (1948), pp. 111–114. Oxyrhynchus, A.D. 296.

Irena Szymańska, "Venditionis Asini Sygrapha," *ib.*, pp. 115–119. Oxyrhynchus, A.D. 311.

Naphtali Lewis, "Two Petitions for Recovery," *ib.*, pp. 51–66. From the fourth-century archive of Aur. Isidorus (P. Col. Inv. 61 and 62).

IRAQ

A. Leo Oppenheim, "The Golden Garments of the Gods," *JNES*, viii, 3 (1949), pp. 172–193. Use of gold appliqué on cloth in Mesopotamia, for garments for kings and gods.

A. Pohl, "Keilschriftbibliographie, 12," *Orientalia*, xviii, 3 (1949), pp. 307–324.

Giovanni Rinaldi, "Tavolette sumeriche della III dinastia di Ur," *Aegyptus*, xxvii (1947), pp. 24–43.

Mariano San Nicolò, "Due atti matrimoniali neobabilonesi," *ib.*, 118–143.

IRAN

T. Burton-Brown, "Azerbaijan Ancient and Modern," *RCAJ*, xxxvi (1949), pp. 168–177. "Unexpected Light on Minoan and Egyptian Culture: Striking Discoveries from a recent Excavation in Remote Azerbaijan," *ILN*, 5753, July 23, 1949, pp. 130 f.; "Aegean Origins in Azerbaijan: Findings at Geoy Tepe," *ib.*, 5754, July 30, 1949, pp. 164 f. Results of an excavation at Urmia in 1948. Finds from the Ubaid to the end of the Bronze Age.

Kurt Erdmann, "Eberdarstellung und Ebersymbolik in Iran," *Bonn. Jahrb.*, 147 (1942), pp. 345–382. The boar's head and boar's hunt in Sasanian art.

AFGHANISTAN

The American Museum of Natural History in New York City has announced the discovery by an expedition led by W. A. Fairservis of an abandoned city in SW Afghanistan in the Dasht-i-Margo. Called Peshawarun by the tribesmen, the site was apparently abandoned after A.D. 1000 because of lack of water, cf. *Time*, 7 November 1949.

U.S.S.R.

Henry Field and Kathleen Price, "Recent Archaeological Discoveries in the Soviet Union," *SJA*, v, 1 (1949), pp. 17–27. Miscellaneous.

Alfred Salmony, "Sarmatian Gold collected by Peter the Great, IV. The Early Sarmatian Group with embossed Relief," *GBA*, xxxv, Jan. 1949, pp. 5–10.

INDIA

B. B. Lal, "Chalcolithic Phase in South Indian Prehistory," *JRASB*, xv, 1 (1949), pp. 41–44. "Towards

the later part of the Neolithic Age in South India there was a phase when copper and bronze implements were used alongside polished stone axes and microliths."

Benjamin Rowland, Jr., "The Hellenistic Tradition in Northwestern India," *AB*, xxxi, 1 (March 1949), pp. 1-10. Influence established in Parthian times, "culminated in the so-called Gothic art of Hadda in the fifth century. R. E. M. Wheeler, "Romano-Buddhist Art: an old Problem restated," *Antiquity*, xxiii, 90 (1949), pp. 4-19. Belongs to centuries two to five, the vital influence being Roman from the maritime trade. Many Western imports shown by Begram hoard. Close parallels with Roman art.

Alan Priest, "Medieval Indian Sculpture," *BMMA*, vili, 2 (Oct. 1949), pp. 66-73. Illustrations from an exhibition of photographs collected by Raymond Burnier.

ITALY

T. J. Dunbabin, "Minos and Daidalos in Sicily," *PBSR*, xvi (n.s. iii, 1948), pp. 1-18. Imports from East found in areas of Syracuse and Agrigento down to ca. 1300, then gap to eighth century. Continuous contact in South Italy, especially Scoglio del Tonno (Taranto). "Two Tomb-groups from Selinus," *ib.*, pp. 19-23. Nothing earlier than Early Corinthian.

Pierre Quoniham, "A Propos du Mur dit de Servius Tullius," *Mel.*, lix (1947), pp. 41-64. Remains under the Sainte-Sabine prove that construction in grotta oscura later than that in cappellaccio, and datable in the early fourth century B.C.

Micheline Fasciato, "Ad Quadrigam Fori Vinarii, Autour du Port au Vin d'Ostie," *ib.*, pp. 65-81. Topography of Trajan's port.

Raymond Bloch, "Volsinies étrusque. Essai historique et topographique," *ib.*, pp. 11-37.

Nereo Alfieri, "I Fiumi Adriatici delle Regioni Augustee V e VI," *Athenaeum*, n.s., xxvi (1949), pp. 122-141. Topography.

A. W. Van Buren, "A Selection from the Antiquities at the American Academy in Rome," *MAAR*, xix (1949), pp. 115-131. Three impasto objects of seventh/sixth centuries B.C., and four lamps and one lead stamp of the Empire.

Arvid Andrén, "Oreficeria e Plastica Etrusche," *OA*, v (1948), pp. 91-112. Development of Etruscan art from archaic period into the fourth century B.C.

Ingrid Söderström, "Studi sulla Mensola Romana dal Periodo della tarda Repubblica fino all' Epoca Flavia," *ib.*, pp. 145-156. Decoration and shape of the cornice brackets.

Harry J. Leon, "Symbolic Representations in the Jewish Catacombs of Rome," *JAOS*, lxix, 2 (1949), pp. 87-90. Menorah and other symbols.

Carl D. Sheppard, Jr., "Iconography of the Cloister of Monreale," *AB*, xxxi, 3 (1949), pp. 159-169. Twelfth century Christian reliefs, including a Mithraic tauroctone.

Ragna Enking, "Minerva Mater," *JDAI*, lix/lx (1944/45), pp. 111-124. Minerva/Athena was not only Parthenos, but also a mother-goddess, until she yielded to Mary the Mother of God.

Reinhard Herbig, "Thea Sibylla," *ib.*, pp. 141-147. Identification of a seated female statue in the Therme Museum.

Zdzislaw Zmigryder-Konopka and Iza Biczunskaya-Małowist, "Człowiek z Głowa osła na Bucchero w Palermo," *Archeologia* (Warsaw), ii (1948), pp. 119-125. Summary in French, p. 492. Representations of an ass-headed man at Palermo, and consideration of the rôle of the ass in ancient religion.

Frederik Poulsen, "Caton et le jeune Prince," *ActaA*, xviii (1948), pp. 117-139. Two busts from Volubilis, a marble Cato the Younger of the late first century of the Empire, and a bronze diademed prince, perhaps Juba I, of about a hundred years earlier.

Jean Charbonneaux, "Portrait of a young Prince of the Family of Augustus," *The Journal of the Walters Art Gallery*, xi (1948), pp. 14-18. Basalt head of Lucius (?)

Vagn Häger Poulsen, "A Note on the Licinian Tomb," *ib.*, pp. 9-13. Identifications of the portraits.

Inez Scott Ryberg, "The Procession of the Ara Pacis," *MAAR*, xix (1949), pp. 77-101. "Historical accuracy has given way before the demands of ritual and official correctness." "The sacrificial procession represented on the inner altar may be interpreted as an offering of a heifer to Pax, preceded by the sacrifice of a ram to Janus and a steer to Jupiter."

Andreas Rumpf, "Ein antikes Fragment aus dem Besitz Winckelmanns," *JDAI*, lix/lx (1944/45), pp. 137-140. A damaged basalt copy of the Idolino.

Goffredo Bendinelli, "I Relievi Domiziane di Palazzo della Cancelleria in Roma," Università di Torino, *Pubbl. della Facoltà di Lettere e Filosofia*, i, 1 (1949), pp. 3-43. Comments on Filippo Magi, *I Relievi Flavi del Palazzo della Cancelleria* (Rome, 1945); interpretation of the figures.

Gerhart Rodenwaldt, "Bemerkungen zu den Kaisermosaiken in San Vitale," *JDAI*, lix/lx (1944/45), pp. 88-110. Ravenna was in uninterrupted touch with the East, "ein Zentrum, in dem Griechisches und Italiisches sich organisch vereinigte."

Lily Ross Taylor and T. Robert S. Broughton, "The Order of the Consuls' Names in the Yearly Lists," *MAAR*, xix (1949), pp. 1-14. In the Republic, there was in principle monthly alternation of the fasces between the two consuls, with the one first elected having priority of service and naming in the lists.

Mason Hammond, "The Tribunician Day from Domitian through Antoninus," *ib.*, pp. 35-76.

Nicolette Gray, "The Paleography of Latin Inscriptions in the Eighth, Ninth and Tenth Centuries in Italy," *PBSR*, xvi (n.s. iii, 1948), pp. 38-167.

SPAIN

Nino Lamboglia, "La Fondazione di Emporion e il Periplo di Avieno," *RSL*, xv (1949), pp. 149-158. Settlement first in seventh century by Rhodians and Ionians, then by Phocaeans from Marseilles about 580-560 B.C.

Martin Almagro, "Ceramica Griega gris de los Siglos VI y V a. de J. C. en Ampurias," *ib.*, pp. 62-122. Anatolian gray ware manufactured later in the Phoenician area.

Juan Maluquer de Motes, "La Cultura de la Lagozza en Cataluña," *ib.*, pp. 46-49. "Vasos de Boca Quadrada en Cataluña," *ib.*, pp. 50-52.

Antonio Beltran, "Notas sobre Alfabetos Hispánicos Antiguos," *ib.*, pp. 132-138.

FRANCE

Dorothy Garrod, "Finding the Earliest Realistic Portrait in the History of Man: The Amazing Discovery of 12,000-year-old Works of Art," *ILN*, 5752, July 16, 1949, pp. 91 f. A life-size male human head in relief profile on a limestone block from a cave at Angles-sur-l'Anglin (Vienne), of Magdalenian times, and other relief sculpture.

Pierre Ponsich, "Dolmens et Roches Gravés du Roussillon," *RSL*, xv (1949), pp. 53-61.

M. Louis, "Stations préhistoriques de la Costière de Nîmes," *ib.*, pp. 15-20. Microlithic industry.

L. Bernabò Brea, "Le Culture preistoriche della Francia Meridionale e della Catalogna e la Successione Stratigrafica delle Arene Candide," *ib.*, pp. 21-45. Cultural unity in the Bronze Age from Catalonia to the Adriatic.

O. and J. Taffanel, "L'Oppidum du Cayla, Commune de Mailhac (Aude)," *RA*, 6th ser., xxxiv (1949), pp. 150-163. Occupation from Hallstatt I to second century of the Empire. Notes on the pottery.

J. Boussard, "Etude sur la Ville de Tours du I^e au IV^e Siècle," *REA*, I, 3/4 (1948), pp. 313-329.

J. Descroix, "Ce qu'était la 'Tragula' des Gaulois," *ib.*, pp. 309-312. A short javelin.

Henri Rolland, "L'expansion du Monnayage de Marseille dans le Pays Celto-Ligure," *RSL*, xv (1949), pp. 139-148. Find-spots and imitations of the independent coinage.

HOLLAND

A. Roes, "Some Gold Torcs found in Holland," *ActaA* xviii (1948), pp. 175-187. Dating to the fourth century of the Empire.

ENGLAND

Grahame Clark, "A Stone-Age Settlement discovered in Yorkshire; and possibly one of the most important Mesolithic Sites in NW Europe," *ILN*, 5767, Oct. 29, 1949, pp. 670f.

Sheppard Frere, "Canterbury Excavations, 1944-48," *Antiquity*, xxiii, 91 (Sept. 1949), pp. 153-160. Recovery of the Roman town.

SCANDINAVIA

H. C. Broholm, "Anthropomorphic Bronze Age Figures in Denmark," *ActaA*, xviii (1948), pp. 106-202. Products of a "primitive, nature people."

A. Oldenberg, "A Contribution to the History of the Scandinavian Bronze Lur in the Bronze and Iron Ages," *ib.*, pp. 1-91. Origin of the wind instrument in a horn. Range of the lur in southern Scandinavia.

Anders Bäckstedt, "The Stenmagle Rune Box and the Golden Horn Inscription," *ib.*, pp. 202-210. A maker's inscription contains same verb as Golden Horn, and suggests the same interpretation of both texts.

GERMANY

Rhineland archaeology 1941-1945 is surveyed in a series of "Berichte," *Bonn. Jahrb.*, 148 (1948), pp. 314-453. Included are Latin dedications to the "Matrons," to Jupiter and Neptune, and to Hercules Saxonus.

Walter Kersten, "Die niederrheinische Grabhügelkultur," *ib.*, pp. 5-80. A well-illustrated and extensive attempt to establish the chronology of the Iron Age on the Lower Rhine.

Josef Röder, "Der Goloring," *ib.*, pp. 81-132. An Iron Age (Hallstatt B-D) structure, consisting of circular platform surrounded by ditch and wall, with a (sacred?) pond adjacent, in the Koblenz Wood (District of Koblenz). Discussion of similar circular structures in Europe and elsewhere.

Walter Rest, "Das Grabhügelfeld von Bell in Hunsrück," *ib.*, pp. 133-189. Twenty-nine grave mounds of the Hunsrück-Eifel Culture II (beginning of La Tène), with both inhumation and cremation burials. Grave furniture included a four-wheeled wagon.

Rafael von Uslar, "Ein spätlatènezeitliches Gräberfeld in Haldern bei Wesel," *ib.*, pp. 190-202.

Franz Rademacher, "Ein spätfränkischer Friedhof bei der Martinskapelle in Boppard," *ib.*, pp. 299-306. A sword and other remains preserved in the chapel derive from a cemetery discovered beneath it in 1280.

Albert Steeger, "Der fränkische Friedhof in Rill bei Xanten," *ib.*, pp. 249-298. Eighty graves, with pottery and weapons.

Gerhart Rodenwaldt, "Ein Typus römischer Sarkophage," *ib.*, 147 (1942), pp. 217-227. A fourth-century sarcophagus in Trier, identified as Christian by doves.

Karl Anton Neugebauer, "Über einen gallorömischen Typus des Mars," *ib.*, pp. 228-236. Many examples, may go back to a Hellenistic ruler type.

Ludwig Pallat, "Frauenkopf aus Köln," *ib.*, 148 (1948), pp. 203-217. Of local red sandstone, apparently an imitation of a Hellenistic head by a Cologne sculptor of the second century of the Empire.

Fritz Fremersdorf, "Ein Werkstattfund von Bildlampen der frühesten Kaiserzeit aus Köln," *ib.*, 147 (1942), pp. 237-248. Gladiators, erotes, Odysseus and Polyphemus.

Franz Rademacher, "Fränkische Gläser aus dem Rheinland," *ib.*, pp. 285-344. Well illustrated, including one plate in color.

Waldemar Haberey, "Spätantike Gläser aus Gräbern von Mayen," *ib.*, pp. 249-284. From a late Roman cemetery.

Kurt Böhner, "Das Langschwert des Frankenkönigs Childerich," *ib.*, 148 (1948), pp. 218-248.

AUSTRIA

Richard Pittioni, "Spätneolithische Grabfunde aus Neusiedl am See, Burgenland," *Mitt. d. Gesell. f. Anthropologie, Ethnologie und Prähistorie*, lxxiii-lxxviii (1947), pp. 225-234. Gold rings, pottery, skeletons.

A. Barb, "Zur Deutung der sogenannten Deichselwagen und verwandter Geräte," *ib.*, pp. 139-151.

Franz Jantsch, "Spätantike Befestungen in Vorarlberg," *ib.*, pp. 168-218. Late Roman castles.

Wilhelm Ehgartner, "Der spätömische Friedhof

von Oggau, Burgenland," *ib.*, pp. 2-32. Skull measurements.

Herbert Mitscha-Märheim, "Ein gotischer Grabfund aus Neusiedl a.d. Zaya, pol. Bezirk Gänserndorf, und die gotische Besiedlung Niederösterreichs," *ib.*, pp. 219-224. Early fifth century.

POLAND

Don Lusthaus, "Brązowa Rączka Wotywna z Myszkowa," *Archeologia* (Warsaw), i (1947), pp. 169-184. Summary in French, pp. 362 f. Bronze hand with dedication to Jupiter Dolichenus, in the Museum of Lwów.

SOUTH AFRICA

C. van Riet Lowe, "Prehistoric Research in South Africa," *British Science News*, ii, 16 (1949), pp. 108-112. "It was in Africa that tool-making man first arose." "Pinturas Rupestres e a Cultura do Zimbáuè," *Boletim, Sociedade de Estudos da Colonia de Moçambique*, 57/58, 1948, pp. 3-16. The paintings from "Impey's Cave" in Southern Rhodesia. Zimbáuè shows a succession of cultural influences.

CENTRAL AMERICA

The San Jacinto Museum of History Association announces its sponsoring of *Tlalocan, A Journal of Source Materials on the Native Cultures of Mexico*, which it is prepared to distribute on an exchange basis beginning with volume iii, 1.

BOOK REVIEWS

A NEW THEORY OF HUMAN EVOLUTION, by Sir Arthur Keith. The Philosophical Library. New York, 1949. Pp. x+451. \$4.50.

The forty-one urbanely written essays which constitute this volume deal with the themes of the nature of man's evolution, the results of the evolutionary process, the formation of the major divisions or varieties of mankind, the part played by "race" in human evolution and the rise of nations. There is subject matter here to interest a wide variety of readers but the greatest stimulation will be derived by the professional student of human evolution. It should be said immediately that Sir Arthur is "free-wheeling"; speculation is piled upon assumptions with results that will impress some readers as rash but seem to this reviewer to be stimulatingly controversial and worthy of further testing.

The "Group Theory" of human evolution is the name given by Sir Arthur to his new hypothesis because he is concerned not only with the genetic-morphological changes in evolving humanity but also with the context, biological, environmental and demographic, which accompanied and conditioned such changes. He marshals the evidence to support his contention that in the million years or more of man's primal development evolutionary changes were effected by and in small human groups who constituted a mosaic of genetically differing units of the world's human population. Stability of group physical patterns can be achieved only by isolation and inbreeding. The most potent force in effecting isolation he conceives to be man's mental nature. Ten of the essays concern themselves with the nature of "human nature." This latter field of inquiry involves one in the complex problem of assessing and weighing biological and cultural factors as the conditioners and motivators of human behavior. The intricate relationships and integration of "nature" and "nurture" have always been the professed subject matter of anthropology. If nothing else, Sir Arthur's present work emphasizes how few are the adequately tested generalizations anyone can make in this field.

In recounting the series of events which mark the course of human evolution as we know it, Sir Arthur favors Africa as the center of origin and of dispersion of the hominids. He is enormously impressed by the mosaic of anthropoid-hominid characters exhibited by the South African Australopithecinae which he calls "Dartians," as being briefer and as a recognition of Prof. Raymond Dart's prescience in emphasizing their hominid character when he described the first found specimen twenty-five years ago. It seems to me

that here Sir Arthur has abandoned his principles of demanding context for understanding evolution and reverted to the common pattern of thinking of evolution as a series of morphological abstractions. Our real knowledge of the environmental and temporal associations of the South African ape men is so imperfect that placing them in the ancestral lines of the modern races as is done in the diagram (pp. 158-9) seems to me to be not yet warranted. If they should prove to be Pleistocene contemporaries of *Pithecanthropus* and *Sinanthropus*, not Pliocene as Sir Arthur guesses they are, then they will be yet another abortive human-like experiment and Africa would become again a possible but not provable cradle of mankind.

Local groups increase in numbers and become tribes, tribes grow and divide and coalesce to form nations. Sir Arthur's view is that all these units, of differing size, are present today, but that the primal instincts promoting isolation and inbreeding operate with increasing difficulty to achieve their effects in the multi-millioned groups we know as nations. Implicit in the essays which he devotes to this subject is the belief that man is still a part of the organic evolutionary process and that organic evolution is not a humane process. This viewpoint is one that is repugnant to many people and is an unacknowledged but important factor in their reluctance to consider evolution, its processes and their results, as being in any way concerned with their "real" world. Sir Arthur, than whom no more generous and humane person exists, has never blinded himself to the essentially neutral character of evolution, a process neither "good" nor "evil" with goals, if such there be, not clearly discernible to us in our present state of imperfect understanding.

UNIVERSITY OF CALIFORNIA T. D. McCOWN
BERKELEY

EL HOMBRE PREHISTORICO Y LOS ORIGENES DE LA HUMANIDAD, by Hugo Obermaier and Antonio García y Bellido. Revista de Occidente, Madrid. 1947. Fourth edition, revised. Pp. viii + 350, figs. 76, pls. 32. 70 pesetas.

The fourth edition of this work appeared not long after Hugo Obermaier's death. Annotations and some additions to the bibliographies distinguish Part I (Fossil Man) of this edition from the previous one, but Obermaier's text remains the same. Part II (Neolithic and Metal Age Man) appears to have been little changed by Professor García.

To those who are unfamiliar with this work its title can well be misleading. It is a concise and usable Prehistory of Europe. Less than thirty pages are given to

fossil man and the palaeolithic prehistory of non-European regions while 120 pages are given over to the description of the European Old Stone Age and its human fossils. The chapters on the Neolithic and the Bronze Age do not appear to this reviewer to provide a beginning student with a clear idea of how dependent first and last was Europe on the Near East with respect to food production and the subsequent effects of Asiatic urbanization.

Most books on European prehistory grasp the hand of the Iron Age by the tips of its fingers and then hastily drop it. The chapter on the Iron Age constitutes nearly a fourth of the whole volume since this is Professor Garcia's period. More than half of this chapter is on the Iron Age in Iberia, clearly a matter of interest to Spanish students of history, but somewhat overweight for, say, South American students of Old World Prehistory.

UNIVERSITY OF CALIFORNIA T. D. McCOWN
BERKELEY

THE PREHISTORY OF SOUTHERN RHODESIA, by Neville Jones. Pp. 78, figs. 40, map 1. Museum Memoir No. 2, National Museum of Southern Rhodesia. Cambridge University Press, 1949. \$2.00.

Southern Rhodesia lies midway between the rich handaxe facies of East Africa and the many cultures of South Africa. Neville Jones has written a clear and concise account of Stone Age research in Southern Rhodesia from 1900-1946. The first discovery of stone flakes was made in 1900 at Khami by Franklin White. Three years later A. J. C. Molyneux found near Victoria Falls the first handaxe recorded from Northern or Southern Rhodesia. Apart from stone implements collected at widespread localities, no concentrated effort along scientific lines was begun until 1918 when Neville Jones and Arnold began excavations in Bambata Cave, Matopo Hills. During the past thirty years a culture sequence has been established ranging from pebble tools of the Pre-Abbevillian to the local facies of Wilton, attributed to the Mesolithic and containing microliths and bone tools. The Middle Stone Age is subdivided into Bembesi, Proto-Still Bay, Rhodesian Still Bay and Magosian. Among the most important sites are those (a) in the Zambezi Valley around Victoria Falls; (b) in the Bembesi Valley; (c) at Lochard; and (d) at Sawmills. Additional evidence of ancient human occupation was obtained from excavations in caves and rockshelters, mainly in the Matopo Hills.

Since 1899 when Molyneux described rock paintings in the Tuli district, great interest has centered on the so-called "Bushman paintings" of Southern Rhodesia. Discussion still rages over the question of the cultural sequence and the number of different phases of rupes-tal painting. For example, the Abbé Breuil has iden-

tified ten phases ranging from schematic to naturalistic in style.

Petroglyphs are rare but attention must be drawn to the only animal figure yet discovered—a nine-foot giraffe with body-markings, mane, tail, and horns faithfully drawn—from the bed of a tributary of the Mtetengwe River near Beitbridge. The only other rock carvings occur at Bambuzi where the spoor of many animals and a few human footprints have been cut into sandstone rockshelters.

Additional evidence was found at two ironstone kopjes, where this hard rock proved most suitable for implements: (a) Gwelo Kopje; and (b) the type station at Hope Fountain.

Neville Jones concludes that during the past fifty years a good beginning has been made in Southern Rhodesia to determine the cultural sequence from the earliest human occupation to the close of the Late Stone Age (for Magosian culture of Khami see *JRAI*, lxxvi, Pt. 1, 1946, pp. 59-67).

Neville Jones is to be congratulated upon this excellent study which is to some degree marred by the poor quality of the photographic reproductions of the stone implements.

Many lacunae still exist but the main trends have appeared. His comprehensive work has laid an excellent foundation for the future when the correct position of Southern Rhodesia in relation to surrounding cultures may be clarified.

WASHINGTON, D. C.

HENRY FIELD

Egyptian Pyramids, by Leslie V. Grinsell. Pp. 182, two appendices and three indices, 18 halftone illustrations on 14 plates, 27 figs., 8 maps. John Bellows Ltd., Gloucester, 1947. 25 Shillings.

The author, an experienced prehistoric archaeologist in the European field, used his spare time through nearly four years of military service in the Near East during and after the war in making an intensive study of the pyramids of Egypt, and he has produced a book of very real usefulness both to the Egyptologist and the layman.

The book is divided into two parts. Part I, *Aspects of Pyramid Study*, treats the subject in general terms in five chapters. An *Introduction* includes a review of ancient and modern studies on the subject. *The Pyramid Complex* describes the various buildings and other adjuncts to the pyramid itself and gives a survey of the functions of the pyramid priesthood and of the various portions of the complex in the ritual. *Origin, Development and Decline of the Pyramid* deals with the changes which occurred from the Early Dynastic royal mastaba through the pyramids of the Old and Middle Kingdoms, and adds brief mention of later survivals, especially in the Sudan. *Construction* takes up the materials used and their sources, tools and appliances,

the methods of quarrying and dressing stone, actual construction of the pyramid itself, and the methods used to seal the interior after burial. *The Pyramid Texts* are discussed as to their location in the tomb, their subject matter and their function in Egyptian funerary beliefs.

Part II is a description of each of the known pyramids in geographical order from north to south, beginning at Abu Roash and ending with Lahun and the Fayum. It is divided into eight chapters on this topographical basis and the buildings are, therefore, treated without reference to their chronological sequence. This second part of the book fits it admirably for use as a guide on the spot to the scholarly minded visitor, and the author clearly had this use in mind in mentioning such matters as permits and accessibility. The book closes with two appendices, the first listing the principal movable monuments from the various pyramids to be found in the major museums of Europe and America, and the second giving a chronological table of kings and the location of their tombs from the First to the Eighteenth Dynasty. Finally there is a general index, an index of Egyptian personal names, and another of Egyptian place names.

Any gathering together in one place of the known material on a given subject is valuable to the scholar as a means of ready reference, and Mr. Grinsell has done this well: one is especially grateful to him for the convenient and adequate bibliographies with which each chapter ends.

Such a work inevitably brings to mind certain controversial points upon which our knowledge, despite all the research which has been devoted to the subject by eminent scholars, remains imperfect. For example, we still lack proof as to the relationship of the two stone pyramids at Dahshur to that at Medum. Now that the southern Dahshur pyramid has been satisfactorily identified with Sneferu, and if reports in the daily press of the past winter* are confirmed, that the north pyramid has yielded inscriptional evidence showing that it was built by the same king, we still lack definite proof as to the builder of the Medum pyramid. It seems most unlikely that Sneferu built three such enormous monuments, and the contention that Medum was the work of his predecessor Huni appears increasingly probable. Proof awaits future excavation.

This reviewer, who has devoted some years to the detailed study of Reisner's work in the Sudan, has been particularly interested in the chapter on the origin and development of the pyramidal form of tomb because it is so similar to what happened in the Sudan some two thousand years later. In this younger manifestation of tomb development a simple grave con-

taining a contracted burial became, by stages, a carefully cut and roofed burial chamber. Later still a stairway of access to the burial place permitted the preparation of the superstructure before the death of the owner, a development which, as in First Dynasty Egypt, made it possible for a king to build his tomb during his lifetime, and hence led to the construction of colossal buildings which absorbed a considerable part of the country's energies and resources during a king's entire reign. The superstructure in the Sudan developed from the tumulus mound through the rectangular mastaba to the true pyramid, and it is significant that the latter, which here too seems to have been reserved for royal burials, appeared first at the time when the rulers of Napata became familiar with Egypt itself as the kings of its Twenty-fifth Dynasty. The author's references to the Sudan monuments (pp. 14, 15 and 48) are based on preliminary reports of Reisner's excavations and are too brief not to be a little misleading. It may be useful to observe here that the pyramid in the Sudan has a history of somewhat over a thousand years, from about 700 B.C. to perhaps the middle of the fourth century A.D., with its own story of development and decline. It should also be noted that Nuri, El Kurru and Gebel Barkal are three separate pyramid groups in the neighborhood of the city of Napata, the first capital of the Kingdom of Kush, and that Begrawiyeh is the name of the modern village which marks the site of the later capital city of Meroë, near which stand the three groups of pyramids in which were buried the royalties who lived and ruled there.

The chapter on pyramid construction is well done but leaves this reviewer disappointed. This is hardly the author's fault since he has followed closely the views of such authorities as Borchardt and Engelbach, who have given the subject searching study. The drawing of a conjectural pyramid under construction (Fig. 7, p. 66) illustrates the two principal points upon which the reviewer remains unconvinced. He does not believe that construction ramps of the steepness shown would have been practical for the haulage of heavy blocks over considerable distances; there must have been more of them at easier gradients to provide for the delivery of blocks in adequate numbers to several working faces at the same time. There is also the difficult problem of the casing. Was this laid after the construction of the core, thus entailing the use of a second set of building ramps, or did it rather rise *pari passu* with the pyramid as a whole? If the latter, it is difficult to reconcile such a method with the layer construction of the core, for which there is very convincing evidence in the earlier pyramids. There remain, despite all the study which has been devoted to the subject, a number of these practical problems to which wholly satisfactory answers have still to be found.

* *The New York Times*, Feb. 6, 1949, p. 26.

At the risk of seeming ungrateful for what is essentially a sound and useful book, the reviewer feels it necessary to point out a few errors, omissions, or ambiguities such as are well nigh inevitable in a work covering so wide a field written by a scholar outside his own special province. P. 47: Deir Abu'l Naga should read Dira' Abu'l Naga here and subsequently. P. 65: Foundation deposits are not, as far as the reviewer is aware, known in any Egyptian building before the Middle Kingdom. P. 106: The addendum slip inserted at p. 165, correcting the error which assigned the small pyramid at Dahshur South to Queen Hetep-heres, should rather have been placed here. Note also the same error inscribed on the map on p. 158 and in the section heading on p. 163. P. 108: The false door in the tomb of Idu contains not a statue as stated but rather the upper half only of a rock-cut figure of Idu rising out of the floor with hands outstretched on the offering-table—a unique manifestation of a perfectly well-known funerary conception. The six storerooms in the lower temple of Khephren south of the T-shaped hall are arranged in two superimposed rows of three each. P. 114: In the upper temple of Mycerinus the lining of the northern corridor west of the central court was planned and partly executed in black granite, not basalt. The incomplete flint implement (*peseshkaf*) referred to was inscribed with the name of Queen Kha-merer-nebty. A perfect example, bearing the names of Cheops, was found in the valley temple of Mycerinus (Reisner, *Mycerinus*, Pl. 65 a). In addition to the dressed granite casing blocks adjacent to the entrance of the Third Pyramid, those in the immediate vicinity of the stela emplacement on the east face had also been dressed (*Mycerinus*, Pl. 11 a). P. 133: At the South Tomb of Djoser the offering vases referred to were deposited in a long corridor paralleling the entrance stair. In the blue tiled chambers the magnificent reliefs of Djoser were of limestone, not faience. P. 135: The so-called Southern and Northern Buildings east of the Step Pyramid deserve somewhat fuller description. Both have similar main façades featuring remarkable attached fluted columns of great height and terminating in a type of capital known only in the Step Pyramid complex. The papyrus columns referred to on the Northern Building are not on its façade but stand attached at the east side of the court, and are small and entirely subsidiary. P. 151: The lower temple of Shepseskaf lies buried beneath cultivated fields in private ownership and is inaccessible to the excavator. The roofing of the mud-brick causeway corridor was accomplished by means of a leaning course brick vault. P. 157: The author has failed to mention the remarkable bridging of a public road by the causeway of Sesostris III. This road crossed it at an angle and the causeway was carried over it by means of brick

vaulting (Jéquier in *Ann. Serv.* xxv, 1925, pp. 56–61). P. 163–4: At the South Stone Pyramid of Dahshur the junction of the causeway with the pyramid temenos wall near its northeast corner shows an interesting and unique arrangement of doorways and double walls, but no trace of anything that could properly be called a building (Jéquier in *Ann. Serv.* xxv, 1925, p. 74, Fig. 5). As far as this reviewer is aware, and he visited the site in 1947, there is no trace whatever of a funerary temple now visible. Appendix II: The author follows Drioton-Vandier's dating for the Old Kingdom but differs in placing Sneferu at the end of the Third instead of at the beginning of the Fourth Dynasty. Presumably in so doing he followed the *Cambridge Ancient History* and Breasted, both now out of date. In view of the evidence for the relationships of the royal family provided by the Giza tomb of Queen Hetep-heres I, it is now clear that there was no dynastic break in the succession between Sneferu and Cheops.

Mr. Grinsell is to be complimented on the quality of his photographic plates. The air views are particularly valuable, and Plate VIII gives us a new view of the antechamber within the Third Pyramid at Giza which has seldom been photographed.

MUSEUM OF FINE ARTS

BOSTON

DOWS DUNHAM

THE TREASURE OF THREE EGYPTIAN PRINCESSES,
by H. E. Winlock. (Publications of the Metropolitan Museum of Art, Department of Egyptian Art, Vol. X.) Pp. xii + 67; pls. XLII. New York, 1948.

We have waited necessarily a generation for the definitive publication of the jewelry and numerous other objects constituting the funerary equipment of three lesser wives of the warrior king, Thutmose III, Menhet, Menwi, and Merti, discovered in 1916 by modern Egyptian tomb robbers after a torrential rain. With his customary attention to minute detail, Mr. Winlock, assisted by the staff of the Egyptian Department of the Metropolitan Museum of Art, has pieced together virtually every shred of pertinent evidence surrounding the discovery of an undisturbed burial of three ladies of the court dating from between 1494 and 1479 B.C. Prior to its discovery, the tomb contained jewelry worn by the three princesses in daily life, consisting of ornaments for the head, neck, arms and fingers, and for the waist. It also held purely funerary jewelry and the usual canopic jars, as well as toilet articles and drinking vessels. Altogether the gold alone is estimated to have amounted to 8,500 grams, with a modern monetary value of \$5,800.00, plus about \$1,000.00 worth of silver in the jewelry and tableware.

It is a major tragedy of Egyptian archaeology that this tomb in a southern mountain gorge at ancient

Thebes could not have been found by trained excavators. Damage to its contents by water from occasional downpours which caused a torrent to flow through the tomb was severe. But much more information was lost by the ignorant action of the modern thieves. Some of the material originally from this tomb was purchased in Egypt for the Metropolitan Museum before the specific provenance was recognized. Many other objects belonging to this three-fold burial reached Europe by surreptitious channels. All of these things not already bought had to be quietly studied before purchase, to determine the likely provenance, and if they were judged to belong to this discovery, they were later acquired for the Metropolitan Museum.

While the occasional flooding of the tomb disturbed and destroyed objects, the original relative positions of many of the pieces in the elaborate jewelry might in some cases have been retained sufficiently to supply modern archaeologists with specific data on the design and arrangement of the stringing. Unfortunately these pieces were gathered up and divided as loot among the thieves, who stuffed them into various small containers, including modern cigarette boxes. Many years later, when the jewelry finally reached the Metropolitan Museum, the staff of the Egyptian Department faced the long task involving, first of all, the segregation of pieces belonging together, respectively, in various ornaments, and then the even more difficult labor of determining the probable original design and arrangement. This reviewer can only marvel at the unending patience and skill which were mustered to accomplish the superb reconstructions of what must be very close to the original designs. Untold thousands of visitors have viewed the magnificent results now on display at the Metropolitan Museum. Specialists may object here and there over certain minutiae. Certainly no arrangement was adopted which was inconsistent with other known parallels, especially those found in the tomb of Tutankhamon.

The Metropolitan Museum's system of spelling ancient Egyptian names is used. The modified German system long ago adopted by the University of Chicago is much simpler for laymen, and no less correct. It would be helpful if the American Oriental Society would appoint a representative committee of leading American Egyptologists to establish uniform spelling of ancient Egyptian names in this country according to a system easily understood by laymen.

Mr. Winlock has limited the text very largely to archaeological information. But students of the history of design who are unable to visit the Metropolitan Museum will find very important source material in the excellent collotype plates, which however do not include color, probably because of the increased expense. The author is to be congratulated on this most

useful and highly informative treatise, even if, as he confesses, he did not experience as much pleasure in writing it as he did in working on *The Treasure of el Lāhūn*, for it was much more difficult to do.

LOS ANGELES
COUNTY MUSEUM

JAMES H. BREASTED, JR.

POUR FAIRE AIMER L'ART ÉGYPTIEN, by Jean Capart.
Pp. 76, pls. 80. Bruxelles, Fondation égyptologique
Reine Élisabeth, 1949.

With the death of Jean Capart in 1947 the art of ancient Egypt lost one of its most persuasive and enthusiastic exponents. This last little book, entrusted in manuscript to his devoted colleagues at the Fondation Reine Élisabeth shortly before he died, is all that we have learned to expect from the author. Clear and logical in argument, simple yet graceful in style, attractive in form and copiously illustrated, it provides an excellent introduction to Egyptian art and civilization.

The entire text occupies only sixty pages. Rather more than half of these are devoted to a section on "Les grands réalisations: Architecture, Sculpture, Bas-reliefs, Peintures et dessins, Arts mineurs." This section is preceded by an account of the characteristics of Egyptian art as a whole and a discussion of its evolution. Professor Capart quotes here the remark of Nestor L'Hôte: "De l'art égyptien, nous ne connaissons que la décadence." Next comes a short historical summary, in which Professor Capart shows the connection between the political history of Egypt and taste in art on the one hand and the strength of tradition on the other. At the end of this third section he gives us the aim of his book: "Je vais donc essayer, en m'appuyant des œuvres typiques, non pas de retracer l'histoire de l'art égyptien, avec les mouvements de perfection et de dégradation, que je viens d'indiquer, mais plutôt d'expliquer les œuvres dont l'esprit me paraît le plus proche de nous."

In his main section, therefore, Professor Capart illustrates architecture, sculpture, and relief with individual, well-known masterpieces, showing how each is characteristic of Egyptian art as a whole. Most of these works of art are illustrated; photographs not included here (because of the difficulties of the moment) are easily available. The majority of the plates have already been reproduced in other books by Professor Capart. In passing, it might be suggested that it would have been better to give the original sources of these photographs than to attribute them all to the author.

The book closes with two pages on the final stages of Egyptian art. During the long course of its history, the art and the religion of Egypt had always been closely connected and the introduction of new forms of worship was fatal. After the beginning of the Ptole-

maic period, "il n'y a qu'un domaine où, pendant quelques siècles encore, les grands traditions pourront offrir une résistance inflexible: l'architecture . . . Le christianisme devait être, dès ses premières conquêtes, un germe de mort pour l'art pharaonique."

Although this book is frankly addressed to those unfamiliar with the art of Egypt, it will be surprising if it is not read and enjoyed by many specialists.

METROPOLITAN MUSEUM OF ART NORA SCOTT

HISTORY OF THE PERSIAN EMPIRE [ACHAEMENID PERIOD] by A. T. Olmstead. The University of Chicago Press, 1948. xx+576 pp., pls. 70, and 10 maps. \$10.00.

The late Professor Olmstead's history of the Achaemenid Empire, the culminating achievement of a rich and fruitful life of scholarship, is a work of immense erudition. To the writing of it he brought all the resources of more than forty-five years of study, research and teaching, and merely to glance through the pages of this volume, so packed with facts and documentation, is to realize how great a loss oriental and classical scholarship has suffered in his death. It is a tragedy that he did not live to see this book in print, for it must have been his most beloved labor, a work toward which his studies and his enquiring mind had pointed ever since the completion of his *History of Palestine and Syria* in 1931. The latter, together with his earlier *History of Assyria* and the present work, will fittingly stand for years to come as the substantial accomplishments of a broad learning and tireless industry of a very high order, which younger scholars may do well to emulate. One stands in admiration, and almost in awe, of this kindly scholar's unflagging interest and enthusiasm, especially when one realizes that he did not intend to take leave of the ancient east with the Achaemenians. The last words of his preface, dated in October 1943, read: "When Alexander destroyed the Empire by a military invasion, the Orient for a short time lost its place in the world; how the Orient quickly recovered much of its dominance must be the subject for another volume."

It should be emphasized that this is the history not simply of Persia in pre-Achaemenid and Achaemenid days but of the whole vast empire so far as it can be reconstructed from all the available body of evidence. It is by this token therefore in some respects a history of Greece, and of Babylonia and Egypt, in the years when the full or glancing impact of Persia fell upon those lands. Although the old, long-known and much-used source material—Herodotus, the Bible, Darius' autobiography, the Avesta—still remains the indispensable framework of the story, no possible shred of evidence that might clothe the familiar skeleton with flesh and blood has been neglected; the findings of field archaeology not only in Persia but throughout

the near and middle east down to 1939, the Aramaic papyri, Old Persian, Anatolian and other epigraphical bits, the Elamite and Aramaic tablets, the numismatics of Asia Minor, Greek historical fragments, and the mass of relevant Babylonian literature—all these resources Olmstead drafted for a work of broad synthesis as they had never been before, and assembled them in the efficient and congenial atmosphere of the Oriental Institute. It is obvious that there are still vast gaps in our knowledge of the empire and its people, particularly in the farther east. We still lack the substance to fill these gaps, and they may never be filled; but it is certain that Olmstead has squeezed the utmost from the materials we have at hand. Specialists may not agree with many conclusions, but the plentiful footnotes lead direct to the sources, which the reader who is able may use as he likes.

The first six chapters, which bring us down to Cambyses and the conquest of Egypt, contain much new material and some very readable passages dealing with origins, background and contemporary culture in neighbouring lands. Zoroaster comes on the scene in the seventh chapter. Without much argument Olmstead declares that the prophet began his mission "about the middle of the sixth century in the northwest corner of the plateau." Herzfeld's study of Zoroaster's times had not appeared when this was written. Incidentally the author frequently takes his stand on controversial subjects without suggesting to the reader that they are controversial, a fact which may give the uninitiated the impression that the sailing is smoother than it really is. Perhaps his justification is in the preface: ". . . the historian need not, in a narrative history, interrupt the continuity of his study by detailed arguments for the soundness of the views which he presents, for the resulting picture will itself prove them sound or unsound." Perhaps, but the student must be on the alert to distinguish views from facts.

Probably the most interesting chapters, and the most original, are those which are not narrative history but which deal with the contemporary scene, the chapters of Ecbatana, Babylon and Susa, a fine one on Persepolis, "The Great King and his Armies," "Oriental Tales and Romances," "Science without Theology," "Religions Dying and Living," and the "Oriental God-King." And these are the chapters of greatest value to the archaeologist. But the continuous story, for those who wish to follow it through in all its intricacy, is in the intervening chapters. The tale ends with Alexander's burning of Persepolis. "Close to twenty-three centuries have elapsed . . . ; now at last, through the united effort of archaeologist, philologist, and historian, Achaemenid Persia has risen from the dead."

The circumstances in which the book went to press,

after Professor Olmstead's death, doubtless help to explain some of the superficial faults which must strike the reader. There is no bibliography and hence the tracing of *op. cit.* and other abbreviated references is often a chore. There are no references in the text to the seventy excellent plates, a serious handicap particularly in following the detailed and vital descriptions of races and national types based on the Persepolis reliefs. There is a rather curious collection of maps, not well coordinated topographically with the text; and an incredible omission among them — there is no map of Persia. The end-paper sketch-map of the satrapies does not fill the need, especially as one of the satrapies is misplaced, another is misspelled, and several of the names cannot be found in the index. Specific running heads for the three indices, topographical, name and subject, would have been a help. There is no table of dates or genealogical tree, and some essential dates are either lacking or else too well hidden.

Professor Cameron and his associates, who saw the book through its later stages, "as a last gesture of friendship," are not to be blamed for these and other shortcomings. On the contrary they are to be congratulated, for the final preparation of the manuscript, with the author gone, must have been a very difficult task, and the public is their debtor.

THE AMERICAN NUMISMATIC SOCIETY

GEORGE C. MILES

THE GILGAMESH EPIC AND OLD TESTAMENT PARALELS; second edition, by Alexander Heidel. Pp. ix + 269; University of Chicago Press, 1949. \$5.

The first edition of this book appeared in 1946. It is a tribute to the author that a second edition has been called for within three years. The new edition is virtually identical with the old; a few minor changes have been made, such as references to recent studies.

Dr. Heidel has chosen an important subject, for the Gilgamesh Epic is the world's greatest pre-Homeric literary masterpiece. The book before us contains (I) an annotated translation of the Epic, followed by chapters on (II) related material, (III) death and the afterlife, and (IV) the flood story. The cuneiform material is correlated with the Bible. Heidel's book should be of interest to every student of the ancient Middle East.

The author (p. 51, n. 97) has confused the seasons in the Middle East. Vegetation gets its fresh start with the autumn rains and suffers limitations imposed by the summer drought. Hence it is incorrect to speak of "the god of vegetation, who was believed to descend to the underworld each autumn and to return with the advent of spring." Furthermore, the author (together with every other scholar whom I have consulted on the subject!) is mistaken in subscribing to

the view that Tammuz dies and is revived annually (see also p. 127, n. 87; p. 207). As is characteristic of all authors who maintain this notion, Heidel cites no text to prove it. I have disposed of the "annually dying god" of the ancient Middle East in *Ugaritic Literature*, Rome, 1949, pp. 3-5. A reexamination of the Gilgamesh Epic confirms my conclusions. In this Epic, as also in Ugaritic literature, the death of a worthy personage would bring on seven years of famine, which clearly rules out a yearly cycle of a dying and reviving god. Thus Enkidu's assassination (VI: 103-113) means seven years of famine for which Ishtar has prepared by laying up supplies for the people in advance (p. 53). For the seven-year cycle of famine, see also pp. 111-112 (=the Atrahasis Epic conveniently translated by Heidel), *Ugaritic Literature* pp. 4-5, the Joseph narrative in Genesis 41, and 2 Kings 8: 1. The annual wailing for Tammuz (cf. Ezekiel 8:14) no more indicates an annual death of the god, than our commemoration of Pearl Harbor Day every December 7th indicates an annual Japanese bombing of Hawaii.

The absence of the case ending from the harlot's designation "Šamhat," shows that it is her personal name, and not a noun meaning "prostitute" or "courtesan." Furthermore, passages like VII: iii; 35, where Šamhat is called "the courtesan" becomes incorrectly tautologous when translated (p. 59) "the courtesan, the prostitute." By the same token, the [ʃ]am-ḥa-te of *Ishtar's Descent* (p. 127, line 50) are not "courtesans" but women who sing on joyous occasions, they are the *krt* of Ugarit = Hebrew *kōšārōt* (Psalm 68:7). I suspect that Šamhāti (literally "rejoicing women") has been mistranslated via a French rendering (such as E. Dhorme's "filles de joie").

Chapter III on "Death and the Afterlife" is very interesting, though there are individual points that call for criticism. Ancient Middle East literature is full of examples of "universalisms" or idioms consisting of a pair of antonyms which mean "everything, all" etc. Heidel, failing (like other writers on the subject) to reckon with this type of idiom, reads a lot of postbiblical and modern theology into the Genesis account of the "tree of knowledge of good and evil" (p. 142), which means only "the tree of universal knowledge." (I have collected a large number of universalisms in the Old Testament for future publication to demonstrate this point. Here suffice it to note that the curse in *Ishtar's Descent*: rev. 28, which Heidel, on p. 126, translates "The drunken and the thirsty (alike) shall smite thy cheek," contains the obvious universalism *drunken: thirsty* and so means "may everybody smite thy cheek!") The Genesis account has diverse elements in it but the usual interpretation, whereby it is "The Fall of Man" (p. 143), is a distortion of the Hebrew text. Taken at its face

value (as well as in the light of extrabiblical literature from the ancient Middle East), Genesis, far from relating the account of "The Fall of Man" is rather "The Rise of Man" halfway to divinity. The two trees contain the gifts that make gods superior to men; namely, universal knowledge and immortality. Man obtained the first, but God prevented him from getting the second, explicitly (Genesis 3:22-24) to keep him from attaining the second of the two prerequisites for divinity (contrast pp. 143 ff., 222).

On p. 150, n. 38, since New Testament passages are given to establish the "assumption" of Moses, a reference to the pseudepigraphical book called *The Assumption of Moses* is called for.

On pp. 196-197, the argument is based on the false definition of "rulers, judges" for Hebrew *'elōhīm* . . . unfortunately given as the first meaning of this common noun in the Hebrew lexicon. That such a meaning is imaginary has been shown in *Journal of Biblical Literature* liv, 1935: pp. 139-144.

Genesis 6:3 contains the statement that God at that time cut man's lifespan down to 120 years, thus bridging the discrepancy between the fantastic longevity of men down to (and for some time after) the Flood and the normal life expectancy of ordinary people. There is no reason for calling this a 120-year "period of grace" (p. 230).

Oddly enough it has been missed by everyone (thus also pp. 233-234) that the Hebrew word QNYM in connection with Noah's ark is not to be read *qinnîm* with the nonexistent meaning "cells, compartments" but *qânnîm* "reeds," which constitutes a major link with the Mesopotamian Flood account, wherein reeds are used for building the ark. This oversight is the more remarkable since Heidel points out that the Hebrew *tēbā* "ark" is only used elsewhere in Exodus 2:3, 5 "where it is applied to the reed vessel in which the infant Moses was saved" (p. 233).

The unmistakable value of Heidel's book lies in his useful translation of the Gilgamesh Epic and other cuneiform literary texts. He has put a lot of sound and honest scholarship into his translations, which are to be recommended to the general reader as well as to the cuneiformist.

THE DROPSIE COLLEGE
PHILADELPHIA

CYRUS H. GORDON

PALESTINE, ANCIENT AND MODERN: A Handbook and Guide to the Palestinian Collection of the Royal Ontario Museum, by Winifred Needler. University of Toronto Press, 1949. Pp. xii+116. 25 plates of photographs, 20 drawings in text, and 3 maps. \$2.00.

As a guide to a small collection of museum objects this volume seems to be a model of its kind. The material is arranged in six different archaeological

periods, extending from the Stone Age to modern Palestine. The description and comparative treatment of the objects in each case is prefaced by a succinct historical introduction to the period in question. Nearly two-thirds of the text is given to material which dates between the Hellenistic and modern ages; and this is the most interesting and probably the best part. The Royal Ontario Museum in Toronto seems to have few Palestinian objects of exceptional or spectacular value, but what is there is here given interesting treatment for the lay visitors to the Museum. Of course, in any volume which covers such a wide historical area there are bound to be statements which may be challenged. I doubt very much whether there was a mass wave of invaders into Palestine about the year 3000 B.C.; at least to my knowledge there is no evidence for such an invasion (cf. p. 9). The material listed as belonging to the Early Bronze Age appears to me from the photographs to be Middle Bronze I, to be dated between the twenty-second and nineteenth centuries B.C. It is very doubtful in my mind that Yahweh, God of Israel, ever had a consort (cf. p. 26); and the introduction of the new type of lamp from Greece, which rapidly displaced the native open variety, should be placed at the end of the fifth or first half of the fourth century B.C. instead of in the Hellenistic period (cf. p. 40; see, for example, the reviewer's note in *AJA*, li [1948], p. 472). But such objections to occasional statements in no way detract from one's appreciation of the value of the work as a whole.

McCORMICK THEOLOGICAL SEMINARY, CHICAGO
G. ERNEST WRIGHT

COMMEMORATIVE STUDIES IN HONOR OF THEODORE LESLIE SHEAR: *Hesperia* Supplement VIII, The American School of Classical Studies at Athens. Pp. xv+433; Frontispiece, 48 figs. in text and 64 pls. Princeton, 1949. \$15.00

In the crowning work of his career, the direction of the excavations in the ancient agora at Athens, T. Leslie Shear demonstrated rare qualities. He assembled a staff of able assistants; inspired within them a personal and professional devotion; planned, co-ordinated, and supervised their expert activities in highly diversified fields to bring real coherence to an extremely complex investigation; and led them in presenting to the professional and lay public the results of their research. This is a remarkable achievement and stands as its own monument to a distinguished teacher and scholar.

The *Commemorative Studies* assembled by his students and colleagues as an expression of their affection for the man and their esteem for his qualities and achievement appropriately reflects his abilities. The forty-three articles in the volume represent many

different areas of study from diverse points of view; the list of contributors includes an impressive number of his students, assistants, colleagues and friends, all outstanding in their own fields. The parallelism fails in the unavoidable lack of unity in the volume, which can hardly be criticized in itself but which does make it impossible to give in a review an adequate critique of the articles published. Perhaps the most useful account of the book would be to indicate briefly the general content of the various articles, classified roughly under a few general heads.

In the field of prehistoric archaeology there are four contributions. C. W. Blegen identifies Homeric Hyria with a mound at Dramesi, four miles down the coast from Aulis, and describes pictures of ships scratched on the door-jambs of the entrance to a Mycenaean tomb there. E. R. Caley, analyzing a needle found by Shear near Corinth, discovers that it was made of arsenical copper and compares the use of that material elsewhere in the prehistoric Aegean. F. O. Waagé describes the contents of an Early Helladic well near Corinth, and Alan Wace suggests that the difference between Early Cycladic and Early Helladic stone figurines may be in part the result of survivals of neolithic cultural forces on the mainland.

The rest of the articles have to do with one aspect or another of classical civilization. In the field of architecture, W. B. Dinsmoor reconstructs from two long-known poros fragments on the outskirts of Corinth a Doric temple of the second half of the fifth century, larger than any other known temple in the Peloponnesos. B. H. Hill rejects other interpretations of the surviving epistyle block from the interior of the Hephaisteion and restores its colonnade with seven columns on the side, four on the rear, adding other details. A. K. Orlandos contributes observations on the roof-tiles of the Parthenon and L. T. Shoe surveys the aesthetic and functional use of dark stone in Greek architecture from the sixth to the fourth centuries B.C.

Several contributors discuss other problems in the field of art. Rhys Carpenter studies a relief of the Twelve Gods from Ostia, rejecting the view that they derive from Praxitelean originals and arguing that they were composed from stock models taken from the east pediment of the Parthenon. Frances Jones describes a late archaic bronze patera in Princeton. C. H. Morgan analyzes the realistically diversified style of Lysippos, primarily from the Ephesus apoxyomenos in Vienna and the Agias. G. M. A. Richter interprets fifth and fourth century "Achaemenian" or "Gracco-Persian" gems as the product of Greek artists working for the Persian market. D. M. Robinson describes his collection of gems, seals, rings and earrings dating from 4000 B.C. to the third century A.D. Gorham Stevens and Eugene Vanderpool provide

some measurements of an archaic base and a drawing of an inscription on it constituting an epigram in honor of a youth named Kroisos; D. M. Robinson gives more measurements and a squeeze, with evidence that the stone was the middle of a three-stepped pedestal, removing hope of ascertaining from the stone whether it was from the base for the Anavysos or Metropolitan Kouros. D. B. Thompson discusses Corinthian terracotta molds taken from bronze reliefs, and H. A. Thompson sees in a fragmentary archaic relief from the Athenian agora the possible progenitor of the theme in vase and sculpture of the standing young man with the dog at his feet.

From the field of pottery and vase painting there are few offerings, but J. D. Beazley presents with typical authority some Panaitian fragments including his briefly stated impression that the Panaitios Painter and Onesimos are probably the same. Virginia Grace discusses the hypothesis that the stamps on amphora handles may have been certificates of value, and gives a general account of the stamps, their history and value.

Numismatics is impressively represented. A. R. Bellinger, in a survey of the problems of the chronology of Attic new-style tetradrachms gives a list of all types dated according to current evidence. Sidney Noe discusses methodology in the study of hoards. E. S. G. Robinson comments on the fragment of the Attic monetary decree from Cos, with new restorations, and surveys known issues of the subject-states through the fifth and fourth centuries to show that purposely and otherwise the law excluding non-Attic currency from the empire was not completely enforced. Margaret Thompson describes a hoard of electrum from the Bosporus struck by Rhescuporis from 212-223 after Christ.

Among articles on epigraphy and related matters, Sterling Dow discusses I.G. II², 1716 and an unpublished fragment of the same inscription, deriving evidence for the chronology of the archons in the period after Sulla. B. D. Meritt reports notes made about inscriptions by Francis Vernon in 1675, among the more important being one involving corrections on the published text of I.G. II², 1100, regarding oil production under Hadrian. J. H. Oliver, discussing the families of two Athenian poets of the second and third centuries after Christ—Q. Statius Sarapion and T. Flavius Glauces—assembles the works of the latter from inscriptions and the anthologies. In an article by A. W. Parsons two men named Pantainos and one Flavius Menandros are brought together in a single scholarly family of Athens and Alexandria in the second century after Christ. W. K. Pritchett publishes an inscription listing the ephes of Oineis about 330 B.C. A. E. Raubitschek comments on several inscriptions indicating the benevolent interest of Commodus

in Athens. Eugene Vanderpool publishes the ostraka from the Athenian agora cast against obscure individuals; one ostrakon-like sherd with the name Peisistratos, possibly the great tyrant; and a list with bibliography of the fifty-two names and thirty-two fragments preserved on ostraka known from all sources through 1946.

In the field of Athenian topography, Oscar Broneer compares Plato's description of early Athens in the *Kritias* with known localities, and suggests that the Metageitnia commemorated a primitive Athenian custom of moving close to the farm-land each summer. Margaret Crosby reconstructs the Altar of the Twelve Gods in the Athenian agora, observing that it may have been called the Altar of Pity in later days. John Travlos narrates some incidents in the history of the archaeological exploration of the agora beginning with plans made in 1831 and concluding with an account of his model of the west side of the area and some new hypotheses about the identification of buildings at the north-west corner.

An important group relates to religion. Margarete Bieber interprets figures on Kerch vases as Eros and Dionysos, explaining the series as belonging to a sort of community wedding-feast and women's initiation in Gamelion at the Lenaion festival. Campbell Bonner elucidates the inscriptions on an Ophite Gnostic amulet. W. S. Ferguson offers some corrections on his "Attic Orgeones," and an important supplement regarding Bendis and Deloptes. Hetty Goldman supports the view that the identification of Herakles with oriental gods with similar characteristics, specifically Sandon at Tarsus, occurred during Alexander's invasion and does not imply prehistoric identity. H. R. W. Smith concludes that the mask-like protomes of a veiled goddess originated in East Greece in the sixth century and came to represent a chthonic divinity or chthonic aspects of various divinities more generally.

In one of two articles on literary subjects H. L. Crosby agrees that the comic chorus had twenty-four members, and argues that the four apparent extras in the *Birds* were musicians. In the other, La Rue Van Hook finds that κάρα is used in tragic address implying respect or affection; κεφαλή may imply affection or hate, like Latin *caput*.

There are, finally, four articles which do not fit readily into the arbitrary groupings above. Edward Capps Jr. describes some Roman paintings of *venationes* on the wall surrounding the orchestra of the theatre at Corinth, and refuges cut in the wall for hard-pressed hunters. Marie Farnsworth, C. B. Smith, and J. L. Rodda show that a piece of zinc found in the agora was produced by advanced but not modern technique. C. A. Robinson Jr., arguing that Alexander envisaged and began working for a true *oecumene* between the Granicus and Miletus, traces the later

development of Alexander's thinking on this subject. Rodney Young discusses a two-faced glass amulet from a geometric well in the agora, with eight parallels, concluding that they were made in Phoenicia and that the agora example is the earliest "orientalizing" import yet found in Greece.

A brief but well-expressed preface introduces the volume. In it we are told among other things that it was found impossible to include contributions by several people; these include some of Shear's most distinguished and intimate associates, whose absence will be noticed, but his circle of associates was so large that it was inevitable that some should be omitted from the volume. A select bibliography of Shear's writings at the front is useful as well as a good indication of the breadth of his interests.

The volume has the standard format of *Hesperia* and its supplements, in itself appropriate since *Hesperia* was conceived in considerable part to provide a medium for the publication of the excavations in the agora at Athens.

EMORY UNIVERSITY

ROBERT SCRANTON

PIGRAMMATA, GREEK INSCRIPTIONS IN VERSE FROM THE BEGINNINGS TO THE PERSIAN WARS, by Paul Friedländer with the collaboration of Herbert G. Hoffleit. Pp. 198. Berkeley and Los Angeles, University of California Press, 1948. \$5.00.

This book was begun some thirty years ago as a new edition of G. Kaibel's *Epigrammata Graeca ex lapidibus collecta* (Berlin, 1878). Since its inception, however, the plan has been changed and the present collection includes not only metrical inscriptions extant on stone, but those which have been preserved in other ways, i.e., by writers and travellers. Nor has Kaibel been allowed to dictate the arrangement of the material; it is thus quite reasonable to consider this an independent contribution.

The editors believe that the text of most of the epigrams is as well established as it can be; consequently their aim is to classify and to interpret. They catalogue the epigrams by four main metrical types: The Hexametric Epigram, The Elegiac Epigram, Incomplete or Irregular Dactylic Schemes, and the Iambic and Trochaic Epigram. The first two, forming the bulk of the volume, are subdivided according to length and to their sepulchral or dedicatory nature.

Each text is preceded by brief notes giving provenance, description, date, and chief bibliography; it is followed by a translation and commentary. This commentary is for the most part linguistic and no opportunity is lost of identifying echoes from Homer and the early poets. In fact, the reader often feels that the authors' enthusiasm leads them into credulity. I should hesitate myself to attach much significance to the repeated occurrence of so ordinary a phrase

as ἀστροῖς καὶ ξείνοισι (no. 70) or τοῖς Δακέδαιμονοῖς (no. 113). Of the latter we are told: "It is hardly accidental, either, that the second half of the pentameter recurs in an elegy of Critias . . . Perhaps both he and the author of our epigram were following Tyrtaeus . . ." But the evidence is too thin.

Similarly, there are pronouncements that will not bear analysis. The commentary on no. 167, the Alkmaionid dedication at Ptoion, concludes: "The important fact is that there would have been no way of saying these things in prose." Compare no. 170a: "But only the verse enables the descendants or the husband to include the terrible cause of death, which would not have been possible in prose." This I do not understand. To write of no. 139 that "'Ασπασίης τόδε σῆμα would have been too effortless beginning" seems to me an impertinence. No. 161 consists of a brief epitaph set up by a woman who had nursed her mentally diseased brother: "One may think of Electra nursing Orestes in Euripides' tragedy." Why should one? No. 104 mentions a sacred veil; to say that this "probably was 'a magnificent specimen of the arts of weaving and embroidering'" is fanciful.

There are omissions in the renderings of nos. 65 and 142. In 61b the alternative rather than the preferred text is translated. In no. 80 the title of Austin's book (*The Stoichedon Style*) is given incorrectly; at the head of p. 112 read *Allerthums*. In no. 113 the Third Messenian War is dated 464–454; this depends on an impossible reading (δεκάτη) in Thucydides, I, 103, 1. The uncertainty stated with such certainty on p. 155 regarding the chronology of Peisistratos and the Alkmaionidai is unjustified; see Adcock, *Class. Quart.*, xviii (1924), pp. 174–181, and Meritt, *Hesperia*, viii (1939), pp. 59–65. The treatment of the bracketed epsilon in no. 157 is puzzling. The quotation giving the date of no. 103 is very inaccurate. In the commentary on no. 39 read Φαρθένε (for Παρθένε).

"Restorations are given in the ordinary type if they are reasonably certain; in small type if they are only exemplificative" (p. 6). ". . . we have preferred not to follow in every detail the practice of epigraphers in matters of spelling and the like" (p. 5). The editors print, for example, ὄπιδ(ὸ)βμενος (supplying the second delta), they employ the kappa, they normally (but not always) in Attic texts write η and ov or ω where the stone has epsilon and omicron; they write πρλμ μέν and ἔγγονοι (no. 107) "since here orthography expresses pronunciation" (p. 5). All of this leads to confusion, for the reader cannot be sure what a specific stone actually bears. No. 85 is a good example; here the epigraphic commentary is worthless and the interested reader must look up the text. And sometimes the "exemplificative" restorations are translated, sometimes not. In any case the criterion is mystifying; compare, for example, nos. 61b and 67.

The General Introduction is preceded by a List of Abbreviations Used. The Indices include First Words of the Epigrams, Parallel References, Proper Names ("exemplificative" restorations are excluded; the number of dots employed to indicate lacunae is without significance), Index of Subjects. The criterion for admission to the last is not easy to recognize. For example, "Megacles" is indexed from p. 155 but not "Alcmaeonides" or "Agariste"; "Boeotia" is admitted from pp. 8, 81, and 145 (where it does not appear), but not from p. 62 (where it does).

Nevertheless, this is a useful book, well produced. The errors and the inconsistencies that I have cited can all be corrected in future volumes of the series; for Friedländer and Hoffleit plan a total of four volumes on a chronological basis. I hope that the epigraphic procedure will become more systematic and that the irritating habit of considering all verbal parallels deliberate borrowings will be sternly curbed.

UNIVERSITY OF
CINCINNATI

MALCOLM F. McGREGOR

THUCYDIDES AND THE HISTORY OF HIS AGE, by G. B. Grundy, 2 vols., pp. xix + 553 and xv + 256. Blackwell, Oxford, 1948. 25 s. each.

G. B. Grundy a few months before his death republished his 1911 volume on Thucydides, together with a second volume which is new. There have been two small changes in the text of volume I: these occur on pp. 24 ff. and 40. They involve a recantation of Grundy's earlier belief that Thucydides could never have been in the neighborhood of Pylos. Grundy in returning to the subject in 1948 has handled the topography of Thucydides in a chapter which is probably the most valuable section of volume II, and he now concludes (p. 105) that it is almost certain that Thucydides had in fact visited Pylos and Sphacteria and examined them minutely.

Volume II contains eight chapters which are in the nature of miscellaneous essays. The chapter on the strategy of the wars, and the two chapters on the political parties at Athens and Sparta, are held together by Grundy's belief that supposed inconsistencies in foreign policy and changes in strategy reflect the conflict between the political parties in the two cities. Dr. Grundy's treatment in this section is very thorough, and deserves to be accepted as the basis of all further arguments with regard to political history during the Peloponnesian War. On the other hand, his discussion of Thucydides' philosophy of history in chapter IV does not acknowledge, and to the present reviewer seems less satisfactory than, the brilliant article of Prof. P. Shorey on the same subject in *TAPA* xxiv (1893), pp. 66–88, and Prof. Finley's very able treatment in his 1942 volume on Thucydides. Grundy throughout volume II defends his views vigorously

but with virtually no reference to modern works on the subject.

Toward the end of the volume, incorrect references to Thucydides become rather numerous. On p. 228, for VII, 89, read VI, 88.9; on p. 233, for VIII, 88 read VIII, 58; on p. 240, for VI, 67 read V, 67. The two large maps of Greece (facing pp. 354 and 359) were unfortunately omitted in the second edition of volume I.

UNIVERSITY OF W. KENDRICK PRITCHETT
CALIFORNIA, BERKELEY

ΤΟ ΕΡΕΧΘΕΙΟΝ ΩΣ ΟΙΚΟΔΟΜΗΜΑ ΧΘΩΝΙΑΣ ΛΑΤΡΕΙΑΣ, by Nicholas M. Kontoleon. Pp. vi+102. The Archaeological Society Publications, No. 29, Athens, 1949. 20,000 drachmae.

Even after the monumental publication of the American School of Classical Studies edited by the late James Morton Paton, the problems connected with the Erechtheion have remained with us giving rise to diverse theories and speculations. Dr. Kontoleon's book belongs to the small group of studies which without indulging in speculation have contributed definitely to the more complete understanding of this unique building.

The ground plan of the Erechtheion and its western wall, the porch of the maidens and Pausanias' μαρτύρια, the traditional information about Erechtheus, Athena and Poseidon, parallel features with other known Heroa, lead our author to the conclusion that the building was originally designed as we have it today to serve a chthonic cult. It belongs to the group of double temples the existence of which is attested by tradition as well as by actual remains. The front or eastern temple was dedicated to Athena Polias, while the western or rear temple, devoted to chthonic cults, was the especial ἔσος of Erechtheus where were located the altars seen by Pausanias. The interesting arrangement of the west wall resulted from the existence in the interior of the building of those altars and from the fact that the building was considered as the Heroon of Erechtheus designed to cover the grave of the hero and to shelter his and other related chthonic cults. Erechtheus' cult in conjunction with that of Athena held in the center of the old city ("which is now known as the Acropolis") is adduced from the examination of the surviving literary evidence from Homer to the Early Christian writers. The side porches are explained as funeral monuments; the porch of the maidens accordingly is placed over the grave of Kekrops, the north porch over that of Erechtheus.

The study is characterized by thoroughness, sound and clear thinking, excellent organization and complete knowledge and use of sources, literary, epigraphical and archaeological. In a few pages the author manages to treat in a convincing and strictly

scientific manner one of the most difficult problems of Classical Architecture. Often he finds himself in disagreement with our leading authorities. For example, he proves wrong the well-known Doerpfeld plan of the building; he disagrees with Stevens as to the location of the Kekropion (cf. *Hesperia*, xv, 1946); with Dinsmoor (*AJA*, xxxvi, 1932, 324) and Elderkin (*Hesperia*, x, 1941, 114) as to the existence of two distinct altars at the site of the building, one to Zeus Hypatos and another to Poseidon Thyechoös, and extolls Pausanias' description of the monument. I would perhaps differ with him as to the antecedents and some of the functions of the Telesterion at Eleusis and his comparison of it with the Erechtheum, and would like to differentiate the ὄπαινος and the ὑπολαμπάς of the inscriptions as architectural devices for airing and lighting.

Scholars everywhere will acclaim the work of Dr. Kontoleon as one of fundamental importance in the understanding of the Erechtheion, the most difficult and the most beautiful building of the Ionic order.

WASHINGTON UNIVERSITY GEORGE E. MYLONAS

SOME ATTIC VASES IN THE CYPRUS MUSEUM, by J. D. Beazley (From the Proceedings of the British Academy. Volume xxxiii). Pp. 50, pls. 8. Oxford University Press. 1949, Price, \$5.00.

This monograph deals with twenty-four red-figured and black-figured Attic vases, of which the majority were previously unpublished. Except for three, all are illustrated here or in the older publications. Most of the vases are from excavations in Cyprus but a few have come to the Cyprus Museum as gifts. A few, including the delightful Little-Master cup and red-figured cup connected with the Chelis Group, are artistically very satisfying. On the whole, the assembled facts and references bearing on subject matter, potters and painters are of as much importance as the vases themselves.

In the chronological presentation, the first vase is the unsigned Little-Master cup, ornamented with a swan on each side and the inscription Χαῖρε καὶ τίτλε εὐ. It is attributed to Tleson, or, preferably, "The Tleson Painter." A list of this painter's ten other unsigned works (lip-cups, band-cups and a pyxis) is appended, and also a list of eight of his fragments which might be parts of signed cups. These lists are supplementary to the vases and related material included and discussed in the author's long article on Little-Master cups in *Journal of Hellenic Studies*, 1932.

Next comes a black-figured amphora, surely painted by Lydos between 540 and 530 B.C., with two scenes of a man courting a boy. Then follows a list of all black-figured and red-figured vases depicting this subject, classified according to their variations. Thus,

type α has two figures either empty-handed or holding wreaths or garlands, while type β always includes a cock. The greater part of the monograph is devoted to this assemblage of material.

The two following vases are remarkable for their form. One is a unique cup with the bowl profile in an S curve, without offset lip, without any appreciable stem, and without a ground-line to support Dionysos who appears, holding ivy sprays in his hands, on each face. The other is an oinochoe with a neck extraordinarily long and thin, one of four such vessels which have been found exclusively in Cyprus.

There is also a black-figured fragment of a columnkrater with part of the standard scene of the Gigantomachy, where Zeus, Athena, Herakles and other gods battle the giants from and around the chariot of Zeus. Lists of similar scenes are given, to supplement those in Maximilian Mayer, *Die Giganten und Titanen in der antiken Sage und Kunst* (1887). To these lists one might add the black-figured amphora with two scenes from the Gigantomachy which was published by the reviewer in *Art in America*, xxix, July 1941, pp. 157-159. Also to be mentioned under the heading of black-figured are a handsome and rather conventional amphora in the manner of the Antimenes Painter and an oinochoe with a curious figure wearing a helmet and raising his himation before his face and apparently dancing.

Arriving at the period of red-figure, we meet two beautiful cups, the one which was mentioned above as connected with the Chelis Group and which has as its inner medallion a running youth wearing a himation, and another ornamented within by a mounted youth wearing chiton, chlamys and petasos. We should mention also a handsome lekythos by the Providence Painter. The goddess who is portrayed alone, with a phiale in her right hand and a sceptre in her left, is called Hera by Beazley instead of Persephone, as in the *Swedish Cyprus Expedition*. Very interesting is a Bowdoin Painter's lekythos which shows a bearded man in short chiton dancing with his arms akimbo and his hands on his hips with the thumbs to the rear. This figure and some satyrs who take the same pose in other scenes may be, it is suggested, actors in the satyr plays.

Of white-ground ware there is a conventional lekythos by the Vouni Painter and a fragmentary but very beautiful kylix by the Boot Painter (who, it is postulated, may be the Kleophrades Painter grown old). The latter vase has an exterior in red-figure.

Among the later red-figured vases, there is a fragment of a covered cup which is responsible for the listing of twelve vases of this extraordinary form, which was first studied by Caskey in *Attic Vase Paintings in the Museum of Fine Arts*, Boston, p. 33. The fragment in the Cyprus Museum is by the Pis-

toxenos Painter and shows figures in armor, perhaps the inactive spectators of a battle scene. Then, a lekythos, an unworthy work of the Eretria Painter, shows Eros in the palaestra all set to take off for a jump, and leads to a list of figures in the same pose and to a supplementary list of works by the Eretria Painter.

A few later vases and a cup by the Euergides Painter, included because it is *not* in the Cyprus Museum, terminate this thorough study of interesting vases.

THE WALTERS ART
GALLERY

DOROTHY KENT HILL

TRAJAN'S PARTHIAN WAR, by F. A. Lepper (Oxford Classical and Philosophical Monographs). Pp. xv + 224, map. Oxford University Press, 1948. Price, 15 shillings.

This excellent monograph is a minute and searching study of one of the most famous and, to some, most fatal episodes in imperial history. Mr. Lepper does not profess to give a complete account of the war, for which he quite reasonably feels that our information is still inadequate. Rather, he examines the evidence for the main problems which must be solved before a more comprehensive reconstruction becomes possible: especially those of chronology, strategy and topography, and the causes of the war. In doing this, however, and in the Conclusion he does present quite clearly his tentative conception of the war as a whole and the main questions connected with it.

An introduction analyzes ancient authorities and modern accounts of the war. Literary sources are meagre and often contradictory and unreliable. Their desperate state is illustrated by the need to give so much attention to Malalas, on whose character and peculiarities Lepper has valuable remarks. Obviously, then, archaeological materials have an added importance.

The chronological problem, as the most promising of solution, is dealt with first and most fully. A steady accumulation of numismatic and epigraphical evidence, when combined with what remains of the Arrian-Dio account, has made possible increasingly more precise results, as is strikingly shown for the titles *Optimus* and *Parthicus* on pp. 35 and 40. Lepper's conclusions largely coincide with those of Guey, against those of Longden, though in part they are based on different considerations. Trajan, he believes, spent two years in conquering and settling Armenia and northern Mesopotamia (114-115), and, at the most, one in the campaign which saw the capture of Ctesiphon and his voyage to the Persian Gulf.

This chronology has important consequences for problems of strategy and topography. Lepper's hypothesis, which is basic to the whole study, is in

brief that during 115 Trajan was chiefly occupied in creating a new and permanent frontier, which in Mesopotamia ran along the Chaboras river and across the desert to Singara. The campaign of 116, at the beginning at least, did not have annexation as its purpose. Lepper makes use of the surveys of Père Poidebard and Sir Aurel Stein to support his hypothesis, but, as he himself emphasizes, conclusive evidence can be hoped for only if more excavation is done.

The conception of a *limes* being consolidated during 115 in turn affects explanations of the causes and purposes of the war. Primarily, Trajan desired to rectify and strengthen the Eastern frontier according to "Flavio-Trajanic" principles adopted elsewhere. Desire for glory (Dio) and economic motives, to the extent that they existed, were secondary. The fact that Trajan was unable to carry out his plans makes them more obscure; first revolts in the conquered areas and a Parthian counter-offensive intervened and then his death. Lepper is tempted to explain Dio's verdict ($\deltaόξης \epsilonπιθυμία$) as "the official view put out by Hadrian" (pp. 202-203). But it is the sort of thing that, without official inspiration, must often have been said of costly wars; the same explanation is given for Severus' Parthian war (*gloriae cuniditas*; SHA, *Sev.*, XV, 1).

The reconstruction of the period after the revolts raises some doubts. An inscription from Dura informs us that during the Seleucid year 428 (October 116/117) the Romans had withdrawn from the city. It is clear from the dates and circumstances that this could not have been the result of any change of policy after Hadrian's accession. Lepper disputes Rostovtzeff's belief that the inscription is evidence for a renunciation by Trajan himself of his conquests in the east. Instead, he suggests that the Romans were withdrawing to the 115 frontier along the Chaboras-Singara line; that everything south of this had been granted to the client-king Parthamaspates; that Dura, being in Parapotamia, is "quite distinct from Mesopotamia, so that its abandonment is no proof at all that Mesopotamia was being given up at the same time" (p. 149). This last statement at least seems rather strong in view of the close relations always existing between Dura and the lower Chaboras; moreover, in A.D. 121 Mesopotamia and Parapotamia were governed by the same *strategos* (*D. Perg.* 10; cf. Lepper, p. 145). In any case, it is hard to believe that the Romans would have voluntarily left Dura if they were merely withdrawing to the Chaboras. Lepper himself earlier recognizes the importance of Dura as "the key to the Euphrates route" (p. 118) and even interprets the triumphal arch there as possibly meant to be "the main eastern gateway into Trajan's empire" (p. 125), at the time the hypothetical 115 *limes* was being organized. Furthermore, the last known event of Trajan's campaign is

the siege of Hatra, which lay to the south of Lepper's *limes*. In the absence of information, many explanations are possible, but still it seems doubtful that Dura would have been abandoned while the attempt to take Hatra continued; and the great effort of the siege is hardly evidence for a planned withdrawal to the Chaboras.

The Dura text may not reveal anything about Trajan's intentions, but it does suggest a good deal about the situation in 117, especially perhaps after the failure to take Hatra. One may question whether the Romans held an intact Chaboras-Singara line and in fact how much of Mesopotamia they did control at Trajan's death. Dio (Xiphilinus) is inconclusive as often, but it may be noted that Trajan's determination to carry on the war required a new expedition into Mesopotamia (LXVIII, 33, 1). Very possibly, too, much of the army left in Syria with Hadrian for the war was there because it had been forced to withdraw from Mesopotamia. In any event, it may be suspected that Hadrian did not renounce firmly held provinces but rather a now quite undecided Parthian war.

One must congratulate Mr. Lepper on the skill and scrupulous care with which he deals with his complicated problems and his lucid and attractive presentation. In all respects, this is a model of what such a study should be. The book itself maintains the high standards of the press.

STATE UNIVERSITY OF IOWA

J. F. GILLIAM

LES RUTÈNES: Études d'Histoire, d'Archéologie, et de Toponymie gallo-romaines, by Alexandre Albenque. Pp. xii + 239, figs. 22, pls. xi. Paris: Picard, 1948. Fr. 550.

M. Albenque is that rare thing, an honest man. He intended a synthesis of the multilinear study, historical, linguistic, and archaeological that he has made of the Rouergue. But he found his materials too scanty or too dissipated, or both, and concluded that the wiser plan was to bring together fifteen essays on topics such as the Roman roads of the district, the identification of certain disputed ancient sites, the industries of the Ruteni, their local names, their story before, during, and after the Roman conquest, and their traditions. To these he has added a collection of the Latin inscriptions of the region (only thirteen all told, not all to be found in *CIL*), and three pages by way of conclusion.

Archaeology plays a smaller rôle than history and toponymy, notwithstanding the manufacturing of terra sigillata at La Graufesenque. M. Albenque appears to be on firm ground in the historical part of his work, and in such matters as tracing the course of ancient highways, which he has carefully explored: less sure of himself in matters of toponymy; and at his weakest in linguistics. His knowledge of Gaulish, not

to mention Keltic, is evidently had at second hand. This is usually the case with the numerous treatises that appear in France concerned with one or other of the ancient Gallic tribes, all of which lean heavily on the evidence of proper names, local, divine, or personal, in default of genuinely native pre-Roman documents. This criticism apart, M. Albenque's work makes a favorable impression, and will be useful to anyone who may wish to know what is to be known about the Ruteni down to the end of the Empire. Sketch maps and other illustrations make reference to other works unnecessary. Perhaps the most significant result is a demonstration of the comparatively incomplete Romanization of this rather forbidding part of France, a clear memory of which remains with me from a visit paid to Canon Hermet at L'Hospitalet de l'Aveyron a few years before his death (in 1939) in order to examine the famous graffiti which he had discovered at La Graufesenque.

Albenque's assertion (p. 25) that the name *Ruteni* means "les Roux" is wide of the mark. We know the Gaulish for "red" (*roudo-*), and can only conjecture the meaning of *rut-* (perhaps "forest," cf. Schol. Luc. 6.67 and *ASS* 1 May, I 121 C, VI 121 E, quoted by Holder *Alt-celt. Sprachschatz* II 1255-56). The appeal to OHG *röt* which Albenque makes with confidence is quite impossible. On p. 65 he takes *duca*, which occurs only once at La Graufesenque, *duci* eight times, as a potter's name. The correct reading is *duci*, and the word is a conjunction or adverb meaning "and also, hereto, in addition." Albenque's error originated with Hermet, whom he follows without question. Some other etymologies advanced without hesitation are more than dubious (e.g. p. 66 *ar-* "water" in *Auario*, l'Aveyron), and it is, to say the least, unfortunate that he accepts (p. 272) Jullian's crude guesses (*REA* xxiv 1922, 250) about the meaning of the graffiti.

ariani luritus (read *iur-*?) *ris tecu anbo ebo tidrus trianis.*

Thurneysen (*ZfCPH* xv 1925, 379-83) gave a much better version, on which my own is in part based ("the potters completed before both these *tecu's* [firings?] three thirds").

On p. 260, n. 3 **mesga* is postulated, even though *mesgus* is attested, with which the Irish and Welsh forms agree in gender; actually the Romance forms do not demand **mesga*. Nor is *mansus* (whence Prov. *mas*) Germanic (p. 218, n. 1), but Latin (*pro masu CIL* iv 1314). The derivations (p. 181) of *Vialatelle* from *via lapta* (on p. 148 *lapsa*), taken from Longnon; and (p. 132) of *dreschieryo* from (*via*) *directa* are not convincing, nor the reading *Eleutheris* (interpreted as Greek, sc. *liberis*) for the manuscript *Eleutetis* (*BG* vii 75.2), corrected to *Heluiis* by Uckert (whom Albenque twice calls Uckert on p. 192).

As Albenque points out (pp. 128-29) *Condatomagus*

changed its name to *A(e)milianum* (whence the modern *Millau*), whereas Segodunum took, by the more common practice, the name of the tribe (*Ruteni*) and so now appears as Rodez. His account of the distribution of names in *-acum*, with the accompanying maps (Fig. 16, 17 at pp. 220, 222), is especially illuminating (cf. p. 213), for it agrees well with sites uncovered by archaeologists that show distinctly Gallic or Gallo-roman remains. And his lists of names of Keltic origin (pp. 235-38), or showing Keltic elements (e.g. —*oiolos*, p. 282) is especially valuable.

The question of when precisely the Ruteni were reduced by the Romans has been repeatedly discussed. It has commonly been attributed (e.g. by Jullian and others) to the same period as the formation of the Provincia Narbonensis. Albenque (pp. 79-82) advances strong arguments for preferring to assign it rather to the governorship of Marcus Fonteius (79-74 B.C.).

HARVARD UNIVERSITY JOSHUA WHATMOUGH

ARRETINISCHE RELIEFKERAMIK, MIT BESCHREIBUNG DER SAMMLUNG IN TÜBINGEN, by Hans Dragendorff, supplemented and edited by Carl Watzinger. Pp. 274, figs. 25, pls. 54; Gryphius-Verlag, Reutlingen, 1948. DM 60.

It is only rarely that a scholar has the satisfaction of opening up an entire new field of study and, within his own lifetime, of seeing that field under widespread and intensive cultivation by a host of successors whose labors he himself has made possible. Wilcken must have experienced that satisfaction in papyrology. Dragendorff certainly experienced it in the enormous field of Roman pottery which he organized for scholarship by his epochal monograph on *terra sigillata* in *Bonner Jahrbücher* xvi, 1895/6. But for years thereafter he left the harvesting almost entirely to others.

It remained for Carl Watzinger, curator of the Archaeological Institute at Tübingen, to recall him to productive Arretine scholarship with an invitation to publish 672 decorated Augustan and Tiberian fragments in the collection. But the resultant book under review is not merely the careful publication of one of the largest collections of the ware; it is also a general essay on the whole field of Arretine relief ceramics. Thereby Dragendorff closed his scholarly career with a monument comparable to that with which he commenced it.

The title of the work is accurately descriptive, for certain areas are wholly omitted. The author does not treat plain Arretine ware except for some unavoidable illustration of appliquéd moulded decoration in the collection, nor Puteolan, north Italian, late Italian or provincial wares. Furthermore, Dragendorff was handicapped by not having the printed copy of Miss Alexander's publication of the Metropolitan Museum's

collection (*CVA*, U. S. A. 9) or of Oxé's studies of the *sigillata* from Oberaden and Haltern. Fortunately, he had personally visited the Metropolitan in 1934, so it merely remained for an editor to bring all references up to date; but his discussions of the Rasinius-Memmius shops and of Cn. Ateius would doubtless have been somewhat different if he had been able to use Oxé's observations. (Conversely, Oxé's articles would probably also have been modified if he had seen Dragendorff's.) But within the field covered by the Tübingen collection, and within the limits of available published and unpublished comparative material, Dragendorff has said all that there is to say at present, and his work will not be outdated until the Arezzo Museum is published. We may expect another general advance only if and when this desirable event, of which there is no presently visible prospect, takes place.

The book's immediate usefulness may be illustrated by a concrete instance. Seven decorated Arretine sherds were found at Antioch and illustrated in *Antioch-on-the-Orontes* IV, pt. 1, fig. 37. Two were clearly attributable to the shop of the Perennii; the editor was less certain about the others than he cared to admit. With *Arretinische Reliefkeramik* at hand nos. 2, 4 and 6 could have been definitely assigned to Perennius, nos. 1, 3 and 5 as definitely to Rasinius, and no. 7 to the Annus-Tellius group, and perhaps even to the individual slaves who made the moulds.

Further illustration of the significance of Dragendorff's book would emerge from lengthy rehearsal of the various specific topics discussed under the general title, and from giving deserved emphasis to many a striking new observation. The Perennii of course receive primary attention, and Dragendorff is probably right in opining that we now have a reasonably complete picture of their decorative types, chronology, etc., which he gives in detail. We are far less well informed on the activities of most other pottery-masters; much helpful new material concerns Rasinius, the Annii and P. Cornelius, but only a paragraph or two can be consecrated to L. Titius Thrysus, C. Gavius and others who are still virtually unknown. Thorough acquaintance with these can probably be made only through future excavations at Arezzo and Ponte a Buriano. Cn. Ateius continues perennially enigmatic, — though not for lack of evidence!

But to put the matter in a nutshell, this book not merely supersedes the *text* of all preceding studies, except Oxé's, but it also provides a new and comprehensive context for all previous illustrations of Arretine relief ware. *Arretinische Reliefkeramik* is obviously on the "must-list" for every library and scholar with any interest in Roman archaeology or art; it also enhances the importance of many older works and the illustrations they contain, especially Fabroni's *Storia degli antichi vasi fittili aretini*, Dragendorff's own original

article, Chase's two great catalogues, the articles by Loeschke, Hähnle and Oxé on Haltern, Franciosi's *Arezzo* (*Italia Artistica*, no. 41), Viviani et al., *I Vasi Aretini*, Oxé's *Arretinische Reliefkeramik vom Rhein* and his study of the Oberaden *sigillata*, Miss Alexander's fascicule of *CVA*, and a number of scattered minor titles.

In addition to Dragendorff, two other first-rate scholars have made extensive direct contributions to the finished work, and should receive a large share of the credit. Karl Hähnle, whose dissertation *Arretinisch Reliefkeramik*, 1915, marked an intermediate epoch in Arretine studies, had made extensive notes and photographs in the Arezzo Museum in 1913. He probably knew the museum, and understood its significance, better than anyone else before or since. Hähnle himself was a victim of World War I, but his papers remained at Tübingen and Dragendorff used them freely. Although it was not usually practicable in the text for Dragendorff to distinguish sharply between Hähnle's work and his own, nevertheless "ich möchte dankbar anerkennen, dass er aus Schritt und Tritt mein stiller Mitarbeiter gewesen ist. So ist dieser Katalog zugleich ein Denkmal für den früh verbliebenen hoffnungsvollen Gelehrten." Had Dragendorff done nothing more than edit Hähnle's notes, we should still be indebted to him. But he did much more.

Dragendorff died in January, 1941, having completed his manuscript and written his preface in 1938. But the script was evidently far from really ready for the press. Watzinger invited Oxé to see it through, but Oxé declined on grounds of age. It is regrettable that his share in the work was limited to a preliminary reading of the work and a little assistance with photographs; but it is unlikely that he would have lived to see it in print, for he himself died in 1944, — likewise leaving an unpublished monumental life-work in Arretine ceramics. Thereupon Watzinger himself undertook the burden of reorganizing and greatly increasing the illustrations, and of not merely making hundreds of minor adjustments and interpolations from Dragendorff's pencilled marginalia and from Miss Alexander's fascicule of *CVA* and from Oxé's Oberaden *sigillata*, which had now appeared, but also of drawing liberally upon his own profound knowledge of ancient art and art criticism to supplement Dragendorff's identifications of original works copied by the Arretines. The combination of Hähnle, Dragendorff and Watzinger is hard to match.

As prosaic miscellaneous addenda: there are few misprints; the paper of the text is much better than some which was used in German scholarly publications after World War I; the paper of the plates leaves nothing to be desired; the photography is good; indexing has been thoroughly executed with regard for the convenience of the reader; an edition of the catalogue

section only, apparently without plates, is advertised at DM 3.50 but is hardly to be recommended.

HAVERFORD COLLEGE

HOWARD COMFORT

FRUEHCHRISTLICHE KIRCHEN IN ROM by *Friedrich Wilhelm Deichmann*. Pp. 87, plans 11, figs. 3, pls. 69. Basel, Amerbach-Verlag, 1948.

Divided into two major sections this survey deals in the first part with the development of church architecture under the aegis of Constantine and his immediate family, in the second part with Roman architecture from the beginning of the fifth to the beginning of the seventh century. Throughout there are relatively lengthy discussions of mosaics, architectural sculpture and general aesthetics.

The description of Constantinian architecture emphasizes the magnitude and wealth of creative ideas of the earliest architects, who, at once, established the ideal types for various categories of church architecture with a new concept of interior space and lighting.

Sharing the author's admiration, one regrets that he deems it necessary to magnify beyond archaeological evidence the spontaneity, scope and pace of the development. The Lateran basilica offers different and greater problems than the author admits.¹ The Church of the Holy Apostles in Constantinople, with the mausoleum of Constantine, connected with an imperial palace in enclosed ground in the center of the city was in the tradition of the Hellenistic heroön type,² infinitely more complex in associations than St. Helena's mausoleum with martyrium. It seems probable that St. Agnese in its Constantinian aspect was no large three aisled basilica.³ Christian architecture is presented as if exclusively developed on the soil of Rome and only at the end of the first part does the author mention that it was created out of many currents, in particular such as the "Morgenland." Truly regrettable are generalizations such as the author's claim for S. John in Lateran of the invention of the clerestory in connection with trabeated architecture.

The discussion of fifth to seventh century architecture suffers throughout from an incomprehensible reluctance to treat objectively the influences in this period on Roman Christian architecture from the Eastern provinces of the old empire. According to the author S. Pietro in Vincoli is the first fifth century three aisled basilica with continuous transept. The transept is not continuous but tripartite, the central

¹ A. Grabar, *Martyrium, Recherches sur le Culte des Reliques et l'Art Chrétien Antique*, I, 1946, pp. 294 ff.; R. Krautheimer, "La façade ancienne de St. Jean de Latran à Rome," *Revue Archéologique*, 1935, 6ème Série, t. V, pp. 231-235.

² Grabar, *op. cit.*, pp. 227-234.

³ R. Krautheimer, *Corpus Basilicarum Christianarum Romae*, I, 1937, S. Agnese, p. 31.

part forms a fore-choir.⁴ Identical or related transepts occur simultaneously in a group of Greek basilicas which may have been of influence on the Roman church. Of S. Giovanni a Porta Latina only the polygonal apse is mentioned. Besides this there is a tripartite transept, a fore-choir and two pastophories with apses, all specifically Byzantine characteristics.⁵

In the treatment of the mosaic decorations questions of provenance and date are ignored, several times with unfortunately misleading results. One is appalled to find statements such as that on p. 66, where the stylistic differences between triumphal arch and nave mosaics in St. Maria Maggiore are interpreted as a turn toward greater colorfulness in the nave mosaics.

Several minor editorial errors occur in the numbering of drawings and figures and, on p. 21, where it is said that St. Peter's was built above the tomb of St. Paul. Page 56, line 4 from below should read "Tiefraumlichkeit."

Important archaeological problems and data are simplified in the monograph, and instead of new material being presented, archaeological findings are summed up through approximately 1946, or, in a more compact manner, through 1942.

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TERESA G. FRISCH

DUMBARTON OAKS PAPERS, NO. 4. Edited for the Dumbarton Oaks Research Library and Collection by the Committee on Publications; contributions by A. A. Vasiliev, Peter Charanis, Sister M. Monica Wagner, and Milton V. Anastos. Pp. 305, 16 plates. Harvard University Press, 1948. \$7.50.

Two articles in this volume of the Dumbarton Oaks Papers are of special archaeological interest, both by Professor A. A. Vasiliev. The first deals with the Imperial Porphyry Sarcophagi from the Church of the Holy Apostles. Vasiliev lists, first the literary records: *de Ceremoniis* (citing 9), Mesarites (4), also the lists of imperial sarcophagi published by Ducange (8), and by Banduri (9); and, second, the nine sarcophagi which remain, in whole or in part (six in the Ottoman Museum, two at St. Eirene, and one at the Nuri-Osmaniye Mosque). He then discusses the assigning of particular sarcophagi to particular Emperors. For seven of them this is impossible; the others are Constantine I and Julian. Considering the events of A.D. 363 it is not entirely clear why or how Julian is included in the list, but the tradition appears in the *de Ceremoniis*, and the decisive word used of his sarcophagus, κυλινδροειδής, is

⁴ R. Krautheimer, "S. Pietro in Vincoli and the tripartite transept in the Early Christian Basilica," *Proceedings of the American Philosophical Society*, LXXXIV, 1941, pp. 383-429.

⁵ R. Krautheimer, "An Oriental basilica in Rome: S. Giovanni a Porta Latina," *AJA*, xl (1936), pp. 485-495.

not referable to more than one of the nine. Vasiliev discusses the identification of the sarcophagus fragment exhibited at Baltimore in 1947 (Catalogue No. 34) as part of the sarcophagus of Constantine and Helena, reaching a conclusion tentative, but on the whole favorable to the theory; the debated point concerning the so-called "Helena" sarcophagus in the Vatican is merely mentioned.

The restriction of red porphyry sarcophagi to the Imperial family is an example of the "hierarchy of colour" referred to by Lopez in his article on the Byzantine silk industry and trade (*Speculum* XX, 1945, pp. I f.). It would be interesting to know much more of the failure of supplies of Egyptian red porphyry; Marcian is the last Emperor in our lists, and of the few later cases where the color and material of the sarcophagus are known, those of Constantine V and Michael II were of green marble (George Mon. 540, Leo Gramm. 467; *Theoph. Cont.* 52). Vasiliev follows the course of the decline of supplies, supposing a slackening off at the quarries as early as A.D. 350, and ends with the highly probable suggestion that among the reasons for it are the decisions at Chalcedon in 451. It is a minor matter, but to accept the idea of an Egyptian source so exclusively as to localize the Quattuor Coronati in Egypt solves nothing, and adds new difficulties to an already confused story.

The second article concerns the monument to the Charioteer Porphyrius, originally in the Hippodrome at Constantinople and now in the Ottoman Museum. The monument, though the bronze statue is missing, is well enough preserved to give valuable evidence on late fifth century relief carving in the Capital. Its relations to the circus scenes on the Theodosian Obelisk are significant, and it shows three versions of the en face quadriga which had so long a history, principally as a textile motive. The inscriptions on two sides are completely preserved, and by means of these and related evidence Vasiliev is able to reconstruct the life of Porphyrius, and to write a valuable chapter on the Circus Factions and their relations both to the charioteers (Porphyrius began his career as a Blue, and in the course of it raced many times for both main factions) and to the Palace, first under Anastasius, a Monophysite and a Green, and later under Justin I, when the tables were turned.

THE ROYAL ONTARIO MUSEUM GERARD BRETT

THE JOSHUA ROLL, A WORK OF THE MACEDONIAN RENAISSANCE, by Kurt Weitzmann. (Studies in Manuscript Illumination, No. 3.) Pp. vi+119, pls. 32. Princeton, Princeton University Press, 1948. \$7.50.

The Joshua Roll in the Vatican Library, cod. Palat. gr. 431, is here made the subject of a monograph in book form for the first time since the Vatican editors

published it in 1905 with a facsimile reproduction of its 35 foot-long picture frieze. This fact is in itself significant since it underlines the present-day recognition of the vital place the Rotulus holds in Byzantine art. Weitzmann is well aware of the importance of the manuscript; after listing earlier attempts at dating ranging from the fifth to the tenth century, he writes (p. 3): "The fundamental issue is still whether we are dealing with a key monument of the Early or of the Middle Byzantine period, and our general conception of either period will greatly depend on its dating." The author throws in his lot with the proponents of a late dating, even going so far as to proclaim in the book's sub-title that the Roll is a work of the Macedonian Renaissance. And yet it is not on the problem of the actual date of the miniatures that investigation is professedly centered (p. 4), but on the problem of the relation of the Rotulus miniatures to their archetype.

The genealogical relations of the Vatican Rotulus with the five extant Octateuchs containing the same set of miniatures to the Book of Joshua are established in masterly fashion with hitherto unpublished photographs taken by the author himself of a manuscript in the Athos monastery Vatopedi, cod. 602, and with photographs of Vatican, cod. gr. 747, supplied by the Vatican Library. Arranging his illustrative material in the clearest possible order, Weitzmann compares each scene in the Rotulus with corresponding scenes in these two Octateuchs and in Vaticanus gr. 746, the latter representing for his purposes a coherent group comprising the Seragliensis and Smyrnaeus. The comparisons reveal that the stylistically superior Rotulus with its continuous picture frieze of wash drawings does not give the clearest idea of the archetype; this is supplied by the eleventh century Octateuch, Vat. gr. 747, of distinctly inferior quality. With this proof that excellence of style does not parallel faithfulness to iconographic tradition, the author sounds a warning that "discussion of iconography must be kept independent of questions of style and quality," and that "the conclusions of the one cannot be taken as a basis for the other, though they should not, of course, be contradictory" (pp. 4-5). The comparisons, furthermore, demonstrate that the present Rotulus, when complete, did not contain illustrations for the whole book of Joshua, but only for its first twelve chapters, and for two scenes from the close of Deuteronomy. The subject matter of the original roll, made up of joined sheets of parchment, is shown to have formed a distinct unit, a triumphal idea commemorating the greatest triumph of the Jewish people. The great value of the monograph under review rests on these two discoveries, soundly arrived at and substantiated.

It is only when Weitzmann turns from iconographic investigations, which yield no material evidence for

direct dating, to the problem of the date of the Rotulus that his conclusions become questionable. A tenth century date is claimed for the manuscript because some of the characteristics of late uncial letters "occasionally occur" (p. 45) in its inscriptions, although the great issue of the contemporaneity of drawings and text on which this claim rests is still far from settled. A date, roughly in the second quarter of the tenth century (p. 42) is advanced for the picture frieze on the basis of its stylistic affinity to other miniatures of the same period (p. 50), especially to those of the famous Paris Psalter (Paris, Bibl. Nat., gr. 139). In his stylistic analysis, Weitzmann is led through arguments "inclining one to date the Psalter a little later than the Rotulus, and closer to the middle of the tenth century. However, the Renaissance model from which the Paris Psalter copy descends, must have been about a generation earlier" (p. 75). This packing of the tenth century is a procedure followed before by the author when he collaborated with A. Goldschmidt in publishing *Die Byzantinischen Elfenbeinskulpturen des X-XIII Jahrhunderts* (Berlin 1934) wherein about 175 out of a

total of some 225 ivories were assigned to the tenth century. The magic pull of the tenth century may be accounted for by the attention paid the concept of a Macedonian revival. Weitzmann sees his way clear to support the concept by summoning the two most controversial Byzantine illuminated manuscripts to its defence; in fact, he regards the Joshua Roll as "the key monument of the Macedonian renaissance" (p. 112). Although the author mentions the silver plates from Cyprus, "belonging to the beginning of the seventh century," as being stylistically "closer to classical tradition" (p. 40) than is the Rotulus, his text leads one to believe that its author is inclined to minimize the use of classical models during the Justinian and Heraclian dynasties in order to champion a Macedonian revival. As a result, his book along with the frescoes discovered at Castelseprio near Milan, will undoubtedly stir up anew the battle among Byzantinists which, as one of the leading contestants recently stated, has been going on merrily for twenty-odd years.

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ANDREW S. KECK

PLATE XVIII



TROJAN TABLET, METROPOLITAN MUSEUM OF ART, NEW YORK
[Bulas, pp. 112-118]

PLATE XIX



A. A DETAIL OF FRAGMENT I (B, below)



B. MAGDEBURG. A RED-FIGURED VASE BY THE PELEUS PAINTER. THE ARMING OF ACHILLES (?). FRAGMENT I.
[Bulas, pp. 112-118]

PLATE XX



A. MAGDEBURG. A RED-FIGURED VASE BY THE PELEUS PAINTER WITH THE ARMING
OF ACHILLES (?) FRAGMENT II.



B. MOSAIC FROM CECCANO AT THE MUSEO NAZIONALE ROMANO IN ROME.
[Bulas, pp. 112-118]



C. FRAGMENT OF A VASE BY EUPHRONIOS IN MILAN. ACTUAL SIZE.
[Belloni, pp. 119-120]

PLATE XXI



A. SHERD FROM A WHITE-GROUND KRATER. COLLECTION OF MR. AND MRS. SEMPLE, CINCINNATI. ACTUAL SIZE



B. SHERD FROM A WHITE-GROUND KRATER. COLLECTION OF MR. AND MRS. SEMPLE, CINCINNATI. ACTUAL SIZE.
[Boulter, pp. 120-121]



OAK LEAVES FROM A HOARD OF GREEK JEWELRY, TYPE III.
[Comfort, pp. 121-126]

PLATE XXIII



A. BEZEL OF GOLD RING FROM A HOARD OF GREEK JEWELRY, ENLARGED.
[Comfort, pp. 121-126]



B. ACHOLLA (BOTRIA). MOSAIC OF THE SEASONS. COURTESY OF G.-C. PICARD
[News, pp. 130-132]



ACHOLLA (BOTRIA). MOSAIC OF DIONYSUS. COURTESY OF G.-C. PICARD.
[News, pp. 130-132]

PLATE XXV



VICTORY FROM SAMOTHRACE. COURTESY OF KARL LEHMANN.
[News, pp. 128-129]

